

&lt;211&gt; 449

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 617

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Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Ala His
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Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu Glu
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Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu Ser Val
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Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu
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Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile
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Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu Val Ser
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Val Asn Val Ser Val Val Ser Glu Glu Val Cys Ser Lys Leu Tyr Asp
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Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly Gly Gly Gln Asp Gln
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Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala His
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Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu Phe
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His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe Pro
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His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg Pro
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Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu His
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Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val Thr
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Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Trp Gly
405          410          415
Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val

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<210> 618  
 <211> 3923  
 <212> DNA  
 <213> Homo sapien

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&lt;210&gt; 619

&lt;211&gt; 3674

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;400&gt; 619

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&lt;210&gt; 620

&lt;211&gt; 2051

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(2051)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 620

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&lt;210&gt; 621

&lt;211&gt; 2841

&lt;212&gt; DNA

&lt;213&gt; Homo sapien

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(2841)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 621

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&lt;211&gt; 3228

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&lt;213&gt; Homo sapien

&lt;220&gt;

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&lt;222&gt; (1)...(3228)

&lt;223&gt; n = A,T,C or G

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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 623

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&lt;211&gt; 2904

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 624

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&lt;210&gt; 627

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 627

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Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys
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Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly
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Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu
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Tyr His Arg Glu Lys Gln Val Leu Ile Gly Gln Trp Val Glu Ser Gly
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Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val  
                   35                  40                  45

Glu Glu Lys Phe Met Thr Met Val Leu Gly Glu Ser Leu His Pro Pro  
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Ser Phe Leu Phe Gln Ile His Ala Thr Trp His Val Gly Gln Glu Tyr  
           65                  70                  75                  80

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                   85                  90                  95

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Lys Lys Arg Ile Pro Arg Thr Tyr Pro Ser His Leu Trp Ile Pro Gly  
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Pro Ala Gln Ser Leu Ala His Arg Arg His Trp Arg Asn Ala Pro Asn  
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Ile Gly Pro Val Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser Ala  
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Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp  
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 Glu Glu Ala Ala Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala  
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&lt;210&gt; 631

&lt;211&gt; 3064

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 631

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&lt;210&gt; 632

&lt;211&gt; 684

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 632

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Asn Gln Asp Asn Ala Val Ser His His Thr Trp Glu Phe Gln Thr Ser
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Ser Pro Val Phe Arg Arg Gly Gln Val Phe His Leu Arg Leu Val Leu
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Asn Gln Pro Leu Gln Ser Tyr His Gln Leu Lys Leu Glu Phe Ser Thr
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Gly Pro Asn Pro Ser Ile Ala Lys His Thr Leu Val Val Leu Asp Pro
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Arg Thr Pro Ser Asp His Tyr Asn Trp Gln Ala Thr Leu Gln Asn Glu
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Ser Gly Lys Glu Val Thr Val Ala Val Thr Ser Ser Pro Asn Ala Ile
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Leu Gly Lys Tyr Gln Leu Asn Val Lys Thr Gly Asn His Ile Leu Lys
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Ser Glu Glu Asn Ile Leu Tyr Leu Leu Phe Asn Pro Trp Cys Lys Glu
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Asp Met Val Phe Met Pro Asp Glu Asp Glu Arg Lys Glu Tyr Ile Leu
      145                     150                     155                     160

Asn Asp Thr Gly Cys His Tyr Val Gly Ala Ala Arg Ser Ile Lys Cys
      165                     170                     175

Lys Pro Trp Asn Phe Gly Gln Phe Glu Lys Asn Val Leu Asp Cys Cys
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Ile Ser Leu Leu Thr Glu Ser Ser Leu Lys Pro Thr Asp Arg Arg Asp
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Pro Val Leu Val Cys Arg Ala Met Cys Ala Met Met Ser Phe Glu Lys
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Gly Gln Gly Val Leu Ile Gly Asn Trp Thr Gly Asp Tyr Glu Gly Gly

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 Val Thr Gly Phe Asp Ser Ala His Asp Thr Glu Arg Asn Leu Thr Val  
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 Arg Arg Pro Val Lys Glu Asn Phe Leu His Met Ser Val Gln Ser Asp  
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 Asp Val Leu Leu Gly Asn Ser Val Asn Phe Thr Val Ile Leu Lys Arg  
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 Lys Thr Ala Ala Leu Gln Asn Val Asn Ile Leu Gly Ser Phe Glu Leu  
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 Thr Ser Gln Ile Gln Gly Gln Val Ser Glu Val Thr Leu Thr Leu Asp  
                                  530                      535                      540

Ser Lys Thr Tyr Ile Asn Ser Leu Ala Ile Leu Asp Asp Glu Pro Val  
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 Ile Arg Gly Phe Ile Ile Ala Glu Ile Val Glu Ser Lys Glu Ile Met  
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Ala Ser Glu Val Phe Thr Ser Phe Gln Tyr Pro Glu Phe Ser Ile Glu  
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Leu Pro Asn Thr Gly Arg Ile Gly Gln Leu Leu Val Cys Asn Cys Ile  
 595 600 605

Phe Lys Asn Thr Leu Ala Ile Pro Leu Thr Asp Val Lys Phe Ser Leu  
 610 615 620

Glu Ser Leu Gly Ile Ser Ser Leu Gln Thr Ser Asp His Gly Thr Val  
 625 630 635 640

Gln Pro Gly Glu Thr Ile Gln Ser Gln Ile Lys Cys Thr Pro Ile Lys  
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Thr Gly Pro Lys Lys Phe Ile Val Lys Leu Ser Ser Lys Gln Val Lys  
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Glu Ile Asn Ala Gln Lys Ile Val Leu Ile Thr Lys  
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<210> 633

<211> 679

<212> PRT

<213> Homo sapiens

<400> 633

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Ser Pro Val Phe Arg Arg Gly Gln Val Phe His Leu Arg Leu Val Leu  
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Asn Gln Pro Leu Gln Ser Tyr His Gln Leu Lys Leu Glu Phe Ser Thr  
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Gly Pro Asn Pro Ser Ile Ala Lys His Thr Leu Val Val Leu Asp Pro  
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Arg Thr Pro Ser Asp His Tyr Asn Trp Gln Ala Thr Leu Gln Asn Glu  
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Ser Gly Lys Glu Val Thr Val Ala Val Thr Ser Ser Pro Asn Ala Ile  
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Leu Gly Lys Tyr Gln Leu Asn Val Lys Thr Gly Asn His Ile Leu Lys  
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Ser Glu Glu Asn Ile Leu Tyr Leu Leu Phe Asn Pro Trp Cys Lys Glu  
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 Val Thr Gly Phe Asp Ser Ala His Asp Thr Glu Arg Asn Leu Thr Val  
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&lt;210&gt; 634

&lt;211&gt; 5668

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 634

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&lt;210&gt; 635

&lt;211&gt; 1095

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 635

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Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe  
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Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala  
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Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp  
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Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp  
85 90 95

Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser  
 100 105 110  
 Cys Asp Thr Asp Ala Glu Ile Leu Tyr Glu Leu Leu Thr Gln His Trp  
 115 120 125  
 His Leu Lys Thr Pro Asn Leu Val Ile Ser Val Thr Gly Gly Ala Lys  
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 Asn Phe Ala Leu Lys Pro Arg Met Arg Lys Ile Phe Ser Arg Leu Ile  
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 Tyr Ile Ala Gln Ser Lys Gly Ala Trp Ile Leu Thr Gly Gly Thr His  
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 Tyr Gly Leu Thr Lys Tyr Ile Gly Glu Val Val Arg Asp Asn Thr Ile  
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 Ser Arg Ser Ser Glu Glu Asn Ile Val Ala Ile Gly Ile Ala Ala Trp  
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 Gly Met Val Ser Asn Arg Asp Thr Leu Ile Arg Asn Cys Asp Ala Glu  
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 Gly Tyr Phe Leu Ala Gln Tyr Leu Met Asp Asp Phe Thr Arg Asp Pro  
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 Leu Tyr Ile Leu Asp Asn Asn His Thr His Leu Leu Leu Val Asp Asn  
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 Gly Cys His Gly His Pro Thr Val Glu Ala Lys Leu Arg Asn Gln Leu  
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 Glu Lys His Ile Ser Glu Arg Thr Ile Gln Asp Ser Asn Tyr Gly Gly  
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Tyr Ala Leu Tyr Lys Ala Phe Ser Thr Ser Glu Gln Asp Lys Asp Asn  
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 Tyr Arg Asn Leu Gln Ile Ala Lys Asn Ser Tyr Asn Asp Ala Leu Leu  
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Arg Leu Ile His	Ile Phe Thr	Val Ser Arg	Asn Leu	Gly Pro	Lys Ile	
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Glu Pro Tyr Leu	Ala Met Phe	Gly Gln Val	Pro Ser	Asp Val	Asp Gly	
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Thr Thr Tyr Asp	Phe Ala His	Cys Thr Phe	Thr Gly	Asn Glu	Ser Lys	
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Trp Ile Thr Ile	Pro Leu Val	Cys Ile Tyr	Met Leu	Ser Thr	Asn Ile	
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Leu Leu Val Asn	Leu Leu Val	Ala Met Phe	Gly Tyr	Thr Val	Gly Thr	
	965		970		975	
Val Gln Glu Asn	Asn Asp Gln	Val Trp Lys	Phe Gln	Arg Tyr	Phe Leu	
	980		985		990	
Val Gln Glu Tyr	Cys Ser Arg	Leu Asn Ile	Pro Phe	Pro Phe	Ile Val	
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Phe Ala Tyr Phe	Tyr Met Val	Val Lys Lys	Cys Phe	Lys Cys	Cys Cys	
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Asn Glu Thr Leu Ala Trp Glu Gly Val Met Lys Glu Asn Tyr Leu Val  
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<210> 636

<211> 3639

<212> DNA

<213> Homo sapiens

<400> 636

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&lt;210&gt; 637

&lt;211&gt; 1095

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; VARIANT

&lt;222&gt; (1)...(1095)

&lt;223&gt; Xaa = Any Amino Acid

&lt;400&gt; 637

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Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe
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Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala
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Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp
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Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp
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Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser

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Tyr	Ile	Ala	Gln	Ser	Lys	Gly	Ala	Trp	Ile	Leu	Thr	Gly	Gly	Thr	His
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Glu	Gly	Ser	Gly	Gln	Ile	Ala	Asp	Val	Ile	Ala	Ser	Leu	Val	Glu	Val
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Glu	Asp	Ala	Leu	Thr	Ser	Ser	Ala	Val	Lys	Glu	Lys	Leu	Val	Arg	Phe
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Leu	Pro	Arg	Thr	Val	Ser	Arg	Leu	Pro	Glu	Glu	Glu	Thr	Glu	Ser	Trp
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Ile	Lys	Trp	Leu	Lys	Glu	Ile	Leu	Glu	Cys	Ser	His	Leu	Leu	Thr	Val
	370					375					380				
Ile	Lys	Met	Glu	Glu	Ala	Gly	Asp	Glu	Ile	Val	Ser	Asn	Ala	Ile	Ser
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Tyr	Ala	Leu	Tyr	Lys	Ala	Phe	Ser	Thr	Ser	Glu	Gln	Asp	Lys	Asp	Asn
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 Val Arg Leu Phe Leu Glu Asn Gly Leu Asn Leu Arg Lys Phe Leu Thr  
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 <213> Homo sapiens

<400> 642  
 ggcctgcaca gtcttgaggc cgaccaagag ccagggagcc agatg 45

<210> 643  
<211> 45  
<212> DNA  
<213> Homo sapiens

<400> 643  
tacaccatcg ggctgggcct gcacagtctt gaggccgacc aagag 45

<210> 644  
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<213> Homo sapiens

<400> 644  
ttccagaact cctacaccat cgggctgggc ctgcacagtc tt 42

<210> 645  
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<213> Homo sapiens

<400> 645  
ctgtcagccg cacactgttt ccagaactcc tacaccatcg ggctg 45

<210> 646  
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<213> Homo sapiens

<400> 646  
catccgcagt ggggtgctgtc agccgcacac tgtttccaga actcc 45

<210> 647  
<211> 45  
<212> DNA  
<213> Homo sapiens

<400> 647  
tcgggagctcc tgggtgcatcc gcagtgggtg ctgtcagccg cacac 45

<210> 648  
<211> 45  
<212> DNA  
<213> Homo sapiens

<400> 648  
aacgaattgt tetgctcggg cgtcctgggtg catccgcagt ggggtg 45

<210> 649  
<211> 45  
<212> DNA  
<213> Homo sapiens

<400> 649  
gcactgggtca tggaaaacga attgttctgc tcgggagctcc tgggtg 45

<210> 650  
<211> 51

<210> DNA  
 <213> Homo sapiens  
  
 <400> 650  
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 <210> 651  
 <211> 45  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 651  
 atcagcattg ctctgcagtg cctaccgcg gggaactctt gcctc 45  
  
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 <211> 45  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 652  
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 <213> Homo sapiens  
  
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 <211> 45  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 655  
 agacccttgc tcgctaacga cctcatgctc atcaagttgg acgaa 45  
  
 <210> 656  
 <211> 15  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 656  
 Glu Pro Gly Ser Gln Met Val Glu Ala Ser Leu Ser Val Arg His  
                   5                  10                  15  
  
 <210> 657  
 <211> 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 657

Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val	Glu	Ala	Ser	Leu
				5					10					15

&lt;210&gt; 658

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 658

Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met
				5					10					15

&lt;210&gt; 659

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 659

Tyr	Thr	Ile	Gly	Leu	Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu
				5					10					15

&lt;210&gt; 660

&lt;211&gt; 14

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 660

Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu	Gly	Leu	His	Ser	Leu
				5					10				

&lt;210&gt; 661

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 661

Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu
				5					10					15

&lt;210&gt; 662

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 662

His	Pro	Gln	Trp	Val	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser
				5					10					15



<210> 663  
<211> 15  
<212> PRT  
<213> Homo sapiens

<400> 663  
Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Ala His  
                  5                  10                  15

<210> 664  
<211> 15  
<212> PRT  
<213> Homo sapiens

<400> 664  
Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val  
                  5                  10                  15

<210> 665  
<211> 15  
<212> PRT  
<213> Homo sapiens

<400> 665  
Ala Leu Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val  
                  5                  10                  15

<210> 666  
<211> 17  
<212> PRT  
<213> Homo sapiens

<400> 666  
Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu Phe Cys  
                  5                  10                  15

Ser

<210> 667  
<211> 15  
<212> PRT  
<213> Homo sapiens

<400> 667  
Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu  
                  5                  10                  15

<210> 668  
<211> 15  
<212> PRT  
<213> Homo sapiens

&lt;400&gt; 668

Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser  
5 10 15

&lt;210&gt; 669

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 669

Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser  
5 10 15

&lt;210&gt; 670

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 670

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser  
5 10 15

&lt;210&gt; 671

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 671

Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu  
5 10 15

&lt;210&gt; 672

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 672

ggaccagcat atgaggaaca gaaggaatga cactc

35

&lt;210&gt; 673

&lt;211&gt; 29

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 673

ccgctcgagt ccacccaag cttcacagg

29

<400> 674						
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aagaaacgag	aatgtgtctt	ctttaccaa	gattocaagg	ccacggagaa	tgtgtgcaag	180
tgtggetatg	cccagagcca	gcacatggaa	ggcaaccaga	tcaaccaaag	tgagaaatgg	240
aactacaaga	aacacaccaa	ggaatttctt	accgcgcctt	ttggggatat	tcagtttgag	300
acactggggg	agaaaggga	gtatatcgt	ctgtctcg	acacggacgc	ggaaatcctt	360
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cattcaagatt	ccaactatgg	tggcaagatc	cccatgtgtg	gttttgcca	aggaggtgga	900
aaagagactt	tgaagccat	caatacctcc	atcaaaaata	gaattccttg	tgtggtggtg	960
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actgagtgtt	acagcagcga	tgaagacttg	gcagaacagc	tgctggtcta	ttcctgtgaa	1920
gcttgggggtg	gactcgaqca	ccaccaccac	caccactga			1959

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<210> 675
<211> 652
<212> PRT
<213> Homo sapiens
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<400> 675

Met Arg Asn Arg Arg Asn Asp Thr Leu Asp Ser Thr Arg Thr Leu Tyr  
5 10 15

Ser Ser Ala Ser Arg Ser Thr Asp Leu Ser Tyr Ser Glu Ser Asp Leu  
20 25 30

Val Asn Phe Ile Gln Ala Asn Phe Lys Lys Arg Glu Cys Val Phe Phe  
35 40 45

Thr Lys Asp Ser Lys Ala Thr Glu Asn Val Cys Lys Cys Gly Tyr Ala  
50 55 60

Gln Ser Gln His Met Glu Gly Thr Gln Ile Asn Gln Ser Glu Lys Trp  
 65 70 75 80  
 Asn Tyr Lys Lys His Thr Lys Glu Phe Pro Thr Asp Ala Phe Gly Asp  
 85 90 95  
 Ile Gln Phe Glu Thr Leu Gly Lys Lys Gly Lys Tyr Ile Arg Leu Ser  
 100 105 110  
 Cys Asp Thr Asp Ala Glu Ile Leu Tyr Glu Leu Leu Thr Gln His Trp  
 115 120 125  
 His Leu Lys Thr Pro Asn Leu Val Ile Ser Val Thr Gly Gly Ala Lys  
 130 135 140  
 Asn Phe Ala Leu Lys Pro Arg Met Arg Lys Ile Phe Ser Arg Leu Ile  
 145 150 155 160  
 Tyr Ile Ala Gln Ser Lys Gly Ala Trp Ile Leu Thr Gly Gly Thr His  
 165 170 175  
 Tyr Gly Leu Met Lys Tyr Ile Gly Glu Val Val Arg Asp Asn Thr Ile  
 180 185 190  
 Ser Arg Ser Ser Glu Glu Asn Ile Val Ala Ile Gly Ile Ala Ala Trp  
 195 200 205  
 Gly Met Val Ser Asn Arg Asp Thr Leu Ile Arg Asn Cys Asp Ala Glu  
 210 215 220  
 Gly Tyr Phe Leu Ala Gln Tyr Leu Met Asp Asp Phe Thr Arg Asp Pro  
 225 230 235 240  
 Leu Tyr Ile Leu Asp Asn Asn His Thr His Leu Leu Leu Val Asp Asn  
 245 250 255  
 Gly Cys His Gly His Pro Thr Val Glu Ala Lys Leu Arg Asn Gln Leu  
 260 265 270  
 Glu Lys Tyr Ile Ser Glu Arg Thr Ile Gln Asp Ser Asn Tyr Gly Gly  
 275 280 285  
 Lys Ile Pro Ile Val Cys Phe Ala Gln Gly Gly Gly Lys Glu Thr Leu  
 290 295 300  
 Lys Ala Ile Asn Thr Ser Ile Lys Asn Lys Ile Pro Cys Val Val Val  
 305 310 315 320  
 Glu Gly Ser Gly Gln Ile Ala Asp Val Ile Ala Ser Leu Val Glu Val  
 325 330 335  
 Glu Asp Ala Leu Thr Ser Ser Ala Val Lys Glu Lys Leu Val Arg Phe  
 340 345 350  
 Leu Pro Arg Thr Val Ser Arg Leu Pro Glu Glu Glu Thr Glu Ser Trp  
 355 360 365  
 Ile Lys Trp Leu Lys Glu Ile Leu Glu Cys Ser His Leu Leu Thr Val

370	375	380
Ile Lys Met Glu Glu Ala Gly Asp Glu Ile Val Ser Asn Ala Ile Ser		
385	390	395 400
Tyr Ala Leu Tyr Lys Ala Phe Ser Thr Ser Glu Gln Asp Lys Asp Asn		
	405	410 415
Trp Asn Gly Gln Leu Lys Leu Leu Leu Glu Trp Asn Gln Leu Asp Leu		
	420	425 430
Asn Asp Glu Ile Phe Thr Asn Asp Arg Arg Trp Glu Ser Ala Asp		
	435	440 445
Leu Gln Glu Val Met Phe Thr Ala Leu Ile Lys Asp Arg Pro Lys Phe		
	450	455 460
Val Arg Leu Phe Leu Glu Asn Gly Leu Asn Leu Arg Lys Phe Leu Thr		
	465	470 475 480
His Asp Val Leu Thr Glu Leu Phe Ser Asn His Phe Ser Thr Leu Val		
	485	490 495
Tyr Arg Asn Leu Gln Ile Ala Lys Asn Ser Tyr Asn Asp Ala Leu Leu		
	500	505 510
Thr Phe Val Trp Lys Leu Val Ala Asn Phe Arg Arg Gly Phe Arg Lys		
	515	520 525
Glu Asp Arg Asn Gly Arg Asp Glu Met Asp Ile Glu Leu His Asp Val		
	530	535 540
Ser Pro Ile Thr Arg His Pro Leu Gln Ala Leu Phe Ile Trp Ala Ile		
	545	550 555 560
Leu Gln Asn Lys Lys Glu Leu Ser Lys Val Ile Trp Glu Gln Thr Arg		
	565	570 575
Gly Cys Thr Leu Ala Ala Leu Gly Ala Ser Lys Leu Leu Lys Thr Leu		
	580	585 590
Ala Lys Val Lys Asn Asp Ile Asn Ala Ala Gly Glu Ser Glu Glu Leu		
	595	600 605
Ala Asn Glu Tyr Glu Thr Arg Ala Val Glu Leu Phe Thr Glu Cys Tyr		
	610	615 620
Ser Ser Asp Glu Asp Leu Ala Glu Gln Leu Leu Val Tyr Ser Cys Glu		
	625	630 635 640
Ala Trp Gly Gly Leu Glu His His His His His His		
	645	650

670> 676

671> 132

&lt;212&gt; PRT

&lt;213&gt; Homo sapien

&lt;400&gt; 676

```

Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly Phe
1      5      10      15
Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Arg Ser
20      25      30
Gly Gly Gly Ser Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly
35      40      45
Leu Gly Val Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val
50      55      60
Val Gly Ser Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val
65      70      75      80
Ile Thr Ala Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala
85      90      95
Asp Ala Leu Asn Gly His His Pro Gly Asp Val Ile Ser Val Asn Trp
100     105     110
Gln Thr Lys Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu
115     120     125
Gly Pro Pro Ala
130

```

&lt;210&gt; 677

&lt;211&gt; 36

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 677

ggggaattca tgatccggga gaaatttgcc cactgc

36

&lt;210&gt; 678

&lt;211&gt; 33

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 678

gggctcgagt caggagtttg agaccagcct ggc

33

&lt;210&gt; 679

&lt;211&gt; 675

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 679

```

atgcatcacc atcaccatca cacggccgag tccgataact tccagctgtc ccagggtggg 60
cagggtattc ccattccgat cgggcaggcg atggcgatcg cgggccagat caagcttccc 120

```

```

accgttcata tggggcctac cgccttcctc ggcttgggtg ttgtcgacaa caacggcaac 180
ggcgacagag tccaacgcgt ggtcgggagc gtcggcgcg caagtctcgg catctccacc 240
ggcgacgtga tcaacgcggt cgacggcgct cggatcaaact cggccacgcg gatggcgagc 300
gcgcttaacg ggcacatcc cggtgacgtc atctcgggtg cctggcaaac caagtccggc 360
ggcacgcgtg cagggaaacgt gacattggcc gagggacccc cggccgaatt catgatccgg 420
gagaaatttg cccactgcac cgtgctaacc attgcacaca gattgaacac cattattgac 480
agcgacaaga taatggtttt agattcagga agactgaaag aatatgatga gccgatgtt 540
ttgttgcaaa ataaagagag cctattttac aagatgggtg aacaactggg caaggcagaa 600
gccgctgcc tcaactgaaac agcaaaacag agatgggggt tcaccatgtt ggccaggctg 660
gtctcaaaact cctga                                     675

```

&lt;210&gt; 680

&lt;211&gt; 291

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 680

```

atggggatcc gggagaaatt tgccactgc accgtgctaa ccattgcaca cagattgaac 60
accattattg acagcgacaa gataatggtt ttagattcag gaagactgaa agaatatgat 120
gagccgtatg ttttgctgca aaataaagag agcctatittt acaagatggt gcaacaactg 180
ggcaaggcag aagccgctgc cctcactgaa acagcaaaac agagatgggg ttccaccatg 240
ttggccaggc tgggtctcaa ctccctcgag caccaccacc accaccactg a 291

```

&lt;210&gt; 681

&lt;211&gt; 1074

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 681

```

atgtcagcca ttgagagggt gtcagaggca atcgtcagca tccgaagaat ccagaccttt 60
ttgtactttg atgagatata acagcgcaac cgtcagctgc cgtcagatgg taaaaagatg 120
gtgcattgtc aggattttac tgcttttttg gataaggcat cagagacccc aactctacaa 180
ggccttttct ttactgtcag acctggcgaa ttgttagctg ttgtcggccc cgtgggagca 240
gggaagtcat cactgttaag tgccgtgctc gggaattgg cccaagtca cgggctggtc 300
agcgtgcatg gaagaattgc ctatgtgtct cagcagccct ggggtgttctc gggaactctg 360
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gcttgtgctc tgaaaaagga ttacagctg ttggaggatg gtgatctgac tgtgatagga 480
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aaccgttctg aaggaaaagt tggttttcag gcctataaga attacttcag agctgggtgt 1020
cactggattg tottcatatt ccttattctc gagcaccacc accaccacca ctga 1074

```

&lt;210&gt; 682

&lt;211&gt; 224

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 682

```

Met His His His His His Thr Ala Ala Ser Asp Asn Phe Gln Leu
          5                      10                      15

```

```

Ser Gln Gly Gly Gln Gly Phe Ala Ile Pro Ile Gly Gln Ala Met Ala

```

20						25						30				
Ile	Ala	Gly	Gln	Ile	Lys	Leu	Pro	Thr	Val	His	Ile	Gly	Pro	Thr	Ala	
		35					40					45				
Phe	Leu	Gly	Leu	Gly	Val	Val	Asp	Asn	Asn	Gly	Asn	Gly	Ala	Arg	Val	
	50					55					60					
Gln	Arg	Val	Val	Gly	Ser	Ala	Pro	Ala	Ala	Ser	Leu	Gly	Ile	Ser	Thr	
	65				70					75					80	
Gly	Asp	Val	Ile	Thr	Ala	Val	Asp	Gly	Ala	Pro	Ile	Asn	Ser	Ala	Thr	
				85					90					95		
Ala	Met	Ala	Asp	Ala	Leu	Asn	Gly	His	His	Pro	Gly	Asp	Val	Ile	Ser	
			100					105					110			
Val	Thr	Trp	Gln	Thr	Lys	Ser	Gly	Gly	Thr	Arg	Thr	Gly	Asn	Val	Thr	
		115					120					125				
Leu	Ala	Glu	Gly	Pro	Pro	Ala	Glu	Phe	Met	Ile	Arg	Glu	Lys	Phe	Ala	
	130					135					140					
His	Cys	Thr	Val	Leu	Thr	Ile	Ala	His	Arg	Leu	Asn	Thr	Ile	Ile	Asp	
	145			150						155					160	
Ser	Asp	Lys	Ile	Met	Val	Leu	Asp	Ser	Gly	Arg	Leu	Lys	Glu	Tyr	Asp	
				165					170					175		
Glu	Pro	Tyr	Val	Leu	Leu	Gln	Asn	Lys	Glu	Ser	Leu	Phe	Tyr	Lys	Met	
			180					185					190			
Val	Gln	Gln	Leu	Gly	Lys	Ala	Glu	Ala	Ala	Ala	Leu	Thr	Glu	Thr	Ala	
		195					200					205				
Lys	Gln	Arg	Trp	Gly	Phe	Thr	Met	Leu	Ala	Arg	Leu	Val	Ser	Asn	Ser	
	210					215					220					

```
<210> 683
<211> 357
<212> PRT
<213> Homo sapiens
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<400> 683

Met Ser Ala Ile Glu Arg Val Ser Glu Ala Ile Val Ser Ile Arg Arg  
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Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile Ser Gln Arg Asn Arg Gln  
20 25 30

Leu Pro Ser Asp Gly Lys Lys Met Val His Val Gln Asp Phe Thr Ala  
35 40 45

Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr Leu Gln Gly Leu Ser Phe



50	55	60
Thr Val Arg Pro Gly Glu Leu Leu Ala Val Val Gly Pro Val Gly Ala		
65	70	75 80
Gly Lys Ser Ser Leu Leu Ser Ala Val Leu Gly Glu Leu Ala Pro Ser		
85	90	95
His Gly Leu Val Ser Val His Gly Arg Ile Ala Tyr Val Ser Gln Gln		
100	105	110
Pro Trp Val Phe Ser Gly Thr Leu Arg Ser Asn Ile Leu Phe Gly Lys		
115	120	125
Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val Ile Lys Ala Cys Ala Leu		
130	135	140
Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly Asp Leu Thr Val Ile Gly		
145	150	155 160
Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln Lys Ala Arg Val Asn Leu		
165	170	175
Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile Tyr Leu Leu Asp Asp Pro		
180	185	190
Leu Ser Ala Val Asp Ala Glu Val Ser Arg His Leu Phe Glu Leu Cys		
195	200	205
Ile Cys Gln Ile Leu His Glu Lys Ile Thr Ile Leu Val Thr His Gln		
210	215	220
Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile Leu Ile Leu Lys Asp Gly		
225	230	235 240
Lys Met Val Gln Lys Gly Thr Tyr Thr Glu Phe Leu Lys Ser Gly Ile		
245	250	255
Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn Glu Glu Ser Glu Gln Pro		
260	265	270
Pro Val Pro Gly Thr Pro Thr Leu Arg Asn Arg Thr Phe Ser Glu Ser		
275	280	285
Ser Val Trp Ser Gln Gln Ser Ser Arg Pro Ser Leu Lys Asp Gly Ala		
290	295	300
Leu Glu Ser Gln Asp Thr Glu Asn Val Pro Val Thr Leu Ser Glu Glu		
305	310	315 320
Asn Arg Ser Glu Gly Lys Val Gly Phe Gln Ala Tyr Lys Asn Tyr Phe		
325	330	335
Arg Ala Gly Ala His Trp Ile Val Phe Ile Phe Leu Ile Leu Glu His		
340	345	350
His His His His His		
355		

&lt;210&gt; 684

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 684

Met Gly Ile Arg Glu Lys Phe Ala His Cys Thr Val Leu Thr Ile Ala  
                                   5                                  10                                  15

His Arg Leu Asn Thr Ile Ile Asp Ser Asp Lys Ile Met Val Leu Asp  
                                   20                                  25                                  30

Ser Gly Arg Leu Lys Glu Tyr Asp Glu Pro Tyr Val Leu Leu Gln Asn  
                                   35                                  40                                  45

Lys Glu Ser Leu Phe Tyr Lys Met Val Gln Gln Leu Gly Lys Ala Glu  
                                   50                                  55                                  60

Ala Ala Ala Leu Thr Glu Thr Ala Lys Gln Arg Trp Gly Phe Thr Met  
                                   65                                  70                                  75                                  80

Leu Ala Arg Leu Val Ser Asn Ser Leu Glu His His His His His His  
                                   85                                  90                                  95

&lt;210&gt; 685

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 685

cgcccatggg gatccgggag aaatttgccc actgc 35

&lt;210&gt; 686

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

&lt;400&gt; 686

cgcctcgagg gagtttgaga ccagcctggc caaca 35

&lt;210&gt; 687

&lt;211&gt; 38

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR primer

<400> 687  
gcattggacca tatgtcagcc attgagaggg tgtcagag 38

<210> 688  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR primer

<400> 688  
ccgctcgaga ataaggaaaa tgaagacaat ccag 34

<210> 689  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR primer

<400> 689  
gttgaattca tgcacggggc ccaggtg 27

<210> 690  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> PCR primer

<400> 690  
ccccctcgagt cactatgggc tgcctcttga 30

<210> 691  
<211> 915  
<212> DNA  
<213> Homo sapiens

<400> 691  
atgcatcacc atcaccatca cacggccgcg tccgataact tccagctgtc ccagggtggg 60  
cagggattcg ccattccgat cgggcaggcg atggcgatcg cgggccagat caagcttccc 120  
accgttcata tcgggcctac cgccttcttc ggcttgggtg ttgtcgacaa caacggcaac 180  
ggcgacagag tccaacgcgt ggtcgggagc gctccggcgg caagtctcgg catctccacc 240  
ggcgacgtga tcaccgcggt cgacggcgct ccgatcaact cggccaccgc gatggcggac 300  
gcgcttaacg ggcattcatc cggtgacgtc atctcgggtg cctggcaaac caagtccggc 360  
ggcacgcgta cagggaaacgt gacattggcc gagggacccc cggccgaatt catgcacggg 420  
ccccagggtg tggcacgctg ctccgagtggt gcttgtcctg ccttggctgc cacctctgcg 480  
ggggtgcgtc tggaggggggt ggaccggcca ccaaccttac ccagtcaagg aagtggatgg 540  
ccatgttccc acagcctgag tggctgccac ctgatggctg atggagcaaa ggcccttagga 600  
aaagcagatg gcccttggcc ctaccttttt gttagaagaa ctgatgttcc atgtcctgca 660  
ggagtgagg ttggtggctg tgccccccagc tcttggcgcg cctcgcgaga ggtgactggt 720

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<210> 692
<211> 304
<212> PRT
<213> Homo sapiens
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BNSDOCID <WO 0151633A3 IA>

Leu Leu Leu Cys Tyr Lys Trp Ser His Ile Gly Glu Thr Ser Ser His  
 260 265 270

Leu Arg Ser Lys Val Tyr Ala Ala Phe Gly Gly Ser Ser Pro Cys Leu  
 275 280 285

Lys Gly Leu Met Ser Leu Trp Ala Ser Trp Leu Ser Arg Gly Arg Pro  
 290 295 300

<210> 693  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 693  
 cgaagtcaag tggaggccag cctc

24

<210> 694  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 694  
 cctgaccgaa ttcattaact ggcctggac

29

<210> 695  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> VARIANT  
 <222> (1)...(166)  
 <223> Xaa = Any Amino Acid

<400> 695  
 Met Gly His His His His His Val Glu Ala Ser Leu Ser Val Arg  
 1 5 10 15  
 His Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile  
 20 25 30  
 Lys Leu Asp Glu Ser Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser  
 35 40 45  
 Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn Ser Cys Leu Val Ser Gly  
 50 55 60  
 Trp Gly Leu Leu Ala Asn Gly Arg Met Pro Thr Val Leu Gln Cys Val  
 65 70 75 80  
 Asn Val Ser Val Val Ser Glu Glu Val Cys Ser Lys Leu Tyr Asp Pro

				85					90					95					
Leu	Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly	Gly	Gly	Gln	Xaa	Gln	Xaa				
			100					105					110						
Asp	Ser	Cys	Asn	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr				
		115					120					125							
Leu	Gln	Gly	Leu	Val	Ser	Phe	Gly	Lys	Ala	Pro	Cys	Gly	Gln	Val	Gly				
	130					135					140								
Val	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu				
145					150					155					160				
Lys	Thr	Val	Gln	Ala	Ser														
				165															

<210> 696  
 <211> 504  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(504)  
 <223> n = A,T,C or G

<400> 696																			
atggggccatc	atcatcatca	tcacgtggag	gccagcctct	ccgtacggca	cccagagtac														60
aacagaccct	tgctcgctaa	cgacctcatg	ctcatcaagt	tggacgaatc	cgtgtccgag														120
tctgacacca	tccggagcat	cagcattgct	tgcagtgcc	ctaccgcggg	gaactcttgc														180
ctcgtttctg	gctgggggtct	gctggcgaac	ggcagaatgc	ctaccgtgct	gcagtgcgtg														240
aacgtgtcgg	tggtgtctga	ggaggtctgc	agtaagctct	atgaccgcgt	gtaccacccc														300
agcatgttct	gcgccggcgg	agggcaanac	cagaangact	cctgcaacgg	tgactctggg														360
gggcccctga	tctgcaacgg	gtacttgacg	ggccttgtgt	ctttcggaaa	agccccgtgt														420
ggccaagtgt	gcgtgccagg	tgtctacacc	aacctctgca	aattcactga	gtggatagag														480
aaaaccgtcc	aggccagtta	atga																	504

<210> 697  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 697																			
ctcagggttc	cggagccgcg	g																	21

<210> 698  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 698																			
ctatagaatt	cattaccaaa	aagctgggct	ccagc																35

<210> 699

<211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 699  
 Met Gln His His His His His His Leu Arg Val Pro Glu Pro Arg Pro  
 1 5 10 15  
 Gly Glu Ala Lys Ala Glu Gly Ala Ala Pro Pro Thr Pro Ser Lys Pro  
 20 25 30  
 Leu Thr Ser Phe Leu Ile Gln Asp Ile Leu Arg Asp Gly Ala Gln Arg  
 35 40 45  
 Gln Gly Gly Arg Thr Ser Ser Gln Arg Gln Arg Asp Pro Glu Pro Glu  
 50 55 60  
 Pro Glu Pro Glu Pro Glu Gly Gly Arg Ser Arg Ala Gly Ala Gln Asn  
 65 70 75 80  
 Asp Gln Leu Ser Thr Gly Pro Arg Ala Ala Pro Glu Glu Ala Glu Thr  
 85 90 95  
 Leu Ala Glu Thr Glu Pro Glu Arg His Leu Gly Ser Tyr Leu Leu Asp  
 100 105 110  
 Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr Pro Lys  
 115 120 125  
 Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln Val Ile  
 130 135 140  
 Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala Pro Glu  
 145 150 155 160  
 Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln Val Lys  
 165 170 175  
 Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln Leu Ser  
 180 185 190  
 Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala Leu Lys  
 195 200 205  
 Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn Ser Tyr  
 210 215 220  
 Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro Ala Phe  
 225 230 235 240  
 Trp

<210> 700  
 <211> 729  
 <212> DNA  
 <213> Homo sapiens

<400> 700  
 atgcagcatc accaccatca ccacctcagg gttccggagc cgcggcccg gaggcgaaa 60  
 ggggaggggg ccgcgcggcc gaccccgccc aagccgctca cgtccttct catccaggac 120  
 atcctgcggg acggcgcgca gcggcaaggc ggccgcacga gcagccagag acagcgcgac 180  
 ccggagccgg agccagagcc agagccagag ggaggacgca gccgcgccgg ggcgcagaa 240  
 gaccagctga gcaccggggcc ccgcgcgcgc ccggatgagg ccgagacgct ggcagagacc 300  
 gagccagaaa ggcaacttgg gtcttatctg ttggactctg aaaacacttc aggcgcctt 360  
 ccaaggcttc cccaaacccc taagcagccg cagaagcgct cccgagctgc cttctccac 420  
 actcaggtga tcgagttgga gaggaagttc agccatcaga agtacctgtc ggcccctgaa 480  
 cgggccacc tggccaagaa cctcaagctc acggagaccc aagtgaagat atggttccag 540  
 aacagacgct ataagactaa gcgaaagcag ctctcctcgg agctgggaga cttggagaag 600  
 cactcctttt tgccggccct gaaagaggag gccttctccc gggcctccct ggtctccgtg 660  
 tataacagct atccttacta ccataacctg cactgcgtgg gcagctggag cccagctttt 720  
 tggtaatga 729

<210> 701  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 701  
 ctactaagcg ctggagtgag ggatcag

27

<210> 702  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 702  
 catcgagaat tcactactct ctgactagat gtc

33

<210> 703  
 <211> 161  
 <212> PRT  
 <213> Homo sapiens

<400> 703  
 Met Gln His His His His His His Ala Gly Val Arg Asp Gln Gly Gln  
 1 5 10 15  
 Gly Ala Arg Trp Pro His Thr Gly Lys Arg Gly Pro Leu Leu Gln Gly  
 20 25 30  
 Leu Thr Trp Ala Thr Gly Gly His Cys Phe Ser Ser Glu Glu Ser Gly  
 35 40 45  
 Ala Val Asp Gly Ala Gly Gln Lys Lys Asp Arg Ala Trp Leu Arg Cys  
 50 55 60  
 Pro Glu Ala Val Ala Gly Phe Pro Leu Gly Ser Asp Cys Arg Glu Gly  
 65 70 75 80  
 Gly Arg Gln Gly Cys Gly Gly Ser Asp Asp Glu Asp Asp Leu Gly Val  
 85 90 95  
 Ala Pro Gly Leu Ala Pro Ala Trp Ala Leu Thr Gln Pro Pro Ser Gln  
 100 105 110  
 Ser Pro Gly Pro Gln Ser Leu Pro Ser Thr Pro Ser Ser Ile Trp Pro  
 115 120 125  
 Gln Trp Val Ile Leu Ile Thr Glu Leu Thr Ile Pro Ser Pro Ala His  
 130 135 140  
 Gly Pro Pro Trp Leu Pro Asn Ala Leu Glu Arg Gly His Leu Val Arg  
 145 150 155 160  
 Glu

<210> 704  
 <211> 489  
 <212> DNA  
 <213> Homo sapiens



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<400> 704
atgcagcatc accaccatca ccacgctgga gtgagggatc aggggcaggg cgcgagatgg      60
cctcacacag ggaagagagg gcccctcctg cagggcctca cctgggocac aggaggacac      120
tgcttttccct ctgaggagtc aggagctgtg gatggtgctg gacagaagaa ggacagggcc      180
tgggtcaggt gtccagaggc tgcgctggc ttccttttg gatcagactg cagggagggga      240
ggggcggcagg gttgtggggg gagtacgat gaggatgacc tgggggtggc tccaggcctt      300
gcccctgect gggccctcac ccagcctccc tcacagtctc ctggccctca gtctctcccc      360
tcactccat cctccatctg gcctcagtgg gtcattctga tcaactgaact gaccataccc      420
agccctgccc acggccctcc atggctcccc aatgccttgg agaggggaca tctagtcaga      480
gagtagtga
489

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```

<210> 705
<211> 132
<212> PRT
<213> Homo sapiens

```

```

<400> 705
Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly Phe
 1          5          10          15
Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Arg Ser
 20          25          30
Gly Gly Gly Ser Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly
 35          40          45
Leu Gly Val Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val
 50          55          60
Val Gly Ser Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val
 65          70          75          80
Ile Thr Ala Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala
 85          90          95
Asp Ala Leu Asn Gly His His Pro Gly Asp Val Ile Ser Val Asn Trp
100          105          110
Gln Thr Lys Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu
115          120          125
Gly Pro Pro Ala
130

```

```

<210> 706
<211> 31
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> PCR primer

```

```

<400> 706
ggggaattca tcacctatgt gccgcctctg c

```

31

```

<210> 707
<211> 40
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> PCR primer

```

<400> 707  
gggctcgagt cactcgccca cgaaatccgt gtaaaacagc

40

<210> 708  
<211> 1203  
<212> DNA  
<213> Homo sapiens

<400> 708  
atgcatcacc atcaccatca cacggccgcg tccgataact tccagctgtc ccaggggtggg 60  
cagggattcg ccattccgat cgggcaggcg atggcgatcg cgggccagat caagcttccc 120  
accgttcata tcgggcctac cgcttctctc ggcttgggtg ttgtcgacaa caacggcaac 180  
ggcgacagag tccaacgcgt ggtcgggagc gctccggcgg caagtctcgg catctccacc 240  
ggcgacgtga tcaccgcggt cgacggcgct ccgatcaact cggccaccgc gatggcggac 300  
gcgcttaacg ggcattcatcc cggtgacgtc atctcgggtga cctggcaaac caagtccggc 360  
ggcacgcgta cagggaacgt gacattggcc gagggacccc cggccgaatt catcacctat 420  
gtgcgcctc tgctgtctga agtgggggta gaggagaagt tcatgaccat ggtgctgggc 480  
attggtccag tgctgggctt ggtctgtgtc ccgctcctag gctcagccag tgaccactgg 540  
cgtggacgct atggccgccc cgggcccttc atctgggcac tgtccttggg catcctgctg 600  
agcctctttc tcatcccaag ggccggctgg ctacgagggc tgctgtgccc ggatcccagg 660  
cccctggagc tggcactgct catcctgggc gtggggctgc tggacttctg tggccagggtg 720  
tgcttcactc cactggaggc cctgctctct gacctcttc gggaccggga ccaactgtcg 780  
caggcctact ctgtctatgc cttcatgatc agtcttgggg gctgcctggg ctacctcctg 840  
cctgccattg actgggacac cagtgcctg gccccctacc tgggcaccca ggaggagtgc 900  
ctctttggcc tgctcaccct catcttctc acctgcgtag cagccacact gctggtggct 960  
gaggaggcag cgctgggccc caccgagcca gcagaagggc tgtcggcccc ctcttgtctg 1020  
ccccactgct gtccatgccg ggcccgttg gctttccgga acctgggogc cctgcttccc 1080  
cggctgcacc agctgtgctg ccgcatgccc cgcacctgc gccggctctt cgtggctgag 1140  
ctgtgcagct ggatggcact catgaccttc acgctgtttt acacggattt cgtgggcgag 1200  
tga 1203

<210> 709  
<211> 400  
<212> PRT  
<213> Homo sapiens

<400> 709  
Met His His His His His His Thr Ala Ala Ser Asp Asn Phe Gln Leu  
5 10 15  
Ser Gln Gly Gly Gln Gly Phe Ala Ile Pro Ile Gly Gln Ala Met Ala  
20 25 30  
Ile Ala Gly Gln Ile Lys Leu Pro Thr Val His Ile Gly Pro Thr Ala  
35 40 45  
Phe Leu Gly Leu Gly Val Val Asp Asn Asn Gly Asn Gly Ala Arg Val  
50 55 60  
Gln Arg Val Val Gly Ser Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr  
65 70 75 80  
Gly Asp Val Ile Thr Ala Val Asp Gly Ala Pro Ile Asn Ser Ala Thr  
85 90 95  
Ala Met Ala Asp Ala Leu Asn Gly His His Pro Gly Asp Val Ile Ser

100	105	110
Val Thr Trp Gln Thr Lys Ser Gly Gly Thr Arg Thr Gly Asn Val Thr		
115	120	125
Leu Ala Glu Gly Pro Pro Ala Glu Phe Ile Thr Tyr Val Pro Pro Leu		
130	135	140
Leu Leu Glu Val Gly Val Glu Glu Lys Phe Met Thr Met Val Leu Gly		
145	150	155
Ile Gly Pro Val Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser Ala		
165	170	175
Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp		
180	185	190
Ala Leu Ser Leu Gly Ile Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala		
195	200	205
Gly Trp Leu Ala Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu		
210	215	220
Ala Leu Leu Ile Leu Gly Val Gly Leu Leu Asp Phe Cys Gly Gln Val		
225	230	235
Cys Phe Thr Pro Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro		
245	250	255
Asp His Cys Arg Gln Ala Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu		
260	265	270
Gly Gly Cys Leu Gly Tyr Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser		
275	280	285
Ala Leu Ala Pro Tyr Leu Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu		
290	295	300
Leu Thr Leu Ile Phe Leu Thr Cys Val Ala Ala Thr Leu Leu Val Ala		
305	310	315
Glu Glu Ala Ala Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala		
325	330	335
Pro Ser Leu Ser Pro His Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe		
340	345	350
Arg Asn Leu Gly Ala Leu Leu Pro Arg Leu His Gln Leu Cys Cys Arg		
355	360	365
Met Pro Arg Thr Leu Arg Arg Leu Phe Val Ala Glu Leu Cys Ser Trp		
370	375	380
Met Ala Leu Met Thr Phe Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu		
385	390	395
		400

<210> 710  
<211> 20  
<212> PRT  
<213> Homo sapiens

<400> 710  
Leu Leu Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys Asp Val  
                  5                  10                  15  
  
Ser Val Arg Val  
                  20

<210> 711  
<211> 60  
<212> DNA  
<213> Homo sapiens

<400> 711  
ctgctccac ctccaccgc gctctgcggg gcctctgcct gtgatgtctc cgtacgtgtg 60

<210> 712  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 712  
Ala Ser Ala Cys Asp Val Ser Val Arg Val  
                  5                  10

<210> 713  
<211> 30  
<212> DNA  
<213> Homo sapiens

<400> 713  
gcctctgcct gtgatgtctc cgtacgtgtg 30

<210> 714  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 714  
Ala Ser Ala Cys Asp Val Ser Val Arg  
  1                  5

<210> 715  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 715  
Ser Ala Cys Asp Val Ser Val Arg Val  
                  5

<210> 716  
<211> 27

<212> DNA  
 <213> Homo sapiens

<400> 716  
 tctgcatgtg atgtctccgt acgtgtg

27

<210> 717  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 717  
 Gly Ile Gly Pro Val Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser  
                   5                  10                  15

Ala Ser Asp

<210> 718  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 718  
 Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu Lys Phe Met Thr  
                   5                  10                  15

Met Val Leu

<210> 719  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 719  
 Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala  
                   5                  10                  15

Gln Leu Leu

<210> 720  
 <211> 57  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...(57)  
 <223> n = A,T,C or G

<400> 720  
 ggnathggnc cngtnytngg nytngtntgy gtnccnytny tnggnwsngc nwsngay 57

<210> 721  
<211> 57  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(57)  
<223> n = A,T,C or G

<400> 721  
gtncncncny tnytnytnga rgtnggngtn gargaraart tyatgacnat ggtnytn 57

<210> 722  
<211> 57  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (1)...(57)  
<223> n = A,T,C or G

<400> 722  
atggtncarm gnytnrtgggt nwsnmgnytn ytnmgncaym gnaargenca rytnytn 57

<210> 723  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 723  
Val Leu Gln Cys Val Asn Val Ser Val  
1 5

<210> 724  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 724  
Arg Met Pro Thr Val Leu Gln Cys Val  
1 5

<210> 725  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 725  
Asn Leu Cys Lys Phe Thr Glu Trp Ile  
1 5

<210> 726  
<211> 9  
<212> PRT

<213> Homo sapiens

<400> 726

Met Leu Ile Lys Leu Asp Glu Ser Val  
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<210> 727

<211> 9

<212> PRT

<213> Homo sapiens

<400> 727

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Val Leu Gln Cys Val Asn Val Ser Val Val  
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<400> 732

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&lt;210&gt; 733

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 733

Gly Val Leu Val His Pro Gln Trp Val

1

5

&lt;210&gt; 734

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 734

Val Leu Val His Pro Gln Trp Val Leu

1

5

&lt;210&gt; 735

&lt;211&gt; 1195

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 735

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&lt;210&gt; 736

&lt;211&gt; 339

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 736

Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys Met

5

10

15



Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys Asp Thr  
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 Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His Leu His Gln  
                   35                                  40                                  45  
 Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu Leu Gln His Thr  
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 Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile Lys Ile Ala Ala Ile  
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 Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu Leu Arg Glu Val Ile His  
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 Pro Leu Ala Thr Ser His Gln Gln Tyr Phe Tyr Lys Ile Pro Ile Leu  
                   100                                  105                                  110  
 Val Ile Asn Lys Val Leu Pro Met Val Ser Ile Thr Leu Leu Ala Leu  
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 Val Tyr Leu Pro Gly Val Ile Ala Ala Ile Val Gln Leu His Asn Gly  
                   130                                  135                                  140  
 Thr Lys Tyr Lys Lys Phe Pro His Trp Leu Asp Lys Trp Met Leu Thr  
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 Arg Lys Gln Phe Gly Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala  
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 Ile Tyr Ser Leu Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu  
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 Ile Glu His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile  
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 Val Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser  
                   225                                  230                                  235                                  240  
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 Arg His Gly Trp Glu Asp Val Thr Lys Ile Asn Lys Thr Glu Ile Cys

325

330

335

Ser Gln Leu

&lt;210&gt; 737

&lt;211&gt; 2172

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 737

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&lt;210&gt; 738

&lt;211&gt; 2455

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 738

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&lt;210&gt; 739

&lt;211&gt; 2455

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 739

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&lt;210&gt; 740

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 740

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Met Thr His Ser Ser Ala Trp Leu Glu Arg Pro Gln Glu Thr Tyr Asn
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His Gly Gly Arg Arg Arg Gly Ser Lys Ala Arg Leu Thr Trp Trp Gln
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Glu Arg Thr Ser Glu Gly Gly Asp Cys His Lys Leu Phe Phe Phe Glu
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Thr Arg Val Trp Pro Cys Cys Pro Gly Trp Ser Ala Val Ala
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&lt;210&gt; 741

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 741

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Met Val Glu Gly Glu Gly Glu Ala Arg His Val Leu His Gly Gly Arg
                5                      10                      15

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Arg Glu Arg Val Arg Gly Glu Thr Ala Thr Asn Phe Phe Phe Leu Arg  
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Gln Glu Ser Gly Pro Val Ala Gln Ala Gly Val Gln Trp His Asp Leu  
                   35                                  40                                  45

Ser Ser Leu Gln Pro Leu Pro His Arg Phe Lys Gln Phe Ser Cys Leu  
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Ser Leu Pro His Ser Trp Asp His Arg Tyr Ala Pro Pro His Leu Ala  
                   65                                  70                                  75                                  80

Asn Phe Cys Ser Phe Ser Arg Asp Gly Val Ser Leu Cys Cys Ser Gly  
                                   85                                  90                                  95

Trp Ser Lys Thr Pro Gly Leu Gln Gln Ser Ala Cys Leu Gly Leu Pro  
                   100                                  105                                  110

Lys Cys Trp Gly Tyr Arg His Lys Pro Pro His Pro Ala Cys His Ile  
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Leu Leu Asn Tyr Gln Val Ser  
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<210> 742  
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 <212> PRT  
 <213> Homo sapiens

<400> 742  
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Ser Pro Pro Thr Arg Ser Pro Pro Thr Arg Gly Ile Gly Trp Gly His  
                   20                                  25                                  30

Arg Ala Lys Pro Tyr Gln Met Leu Gln Gly Leu Gly Thr Leu Arg Pro  
                   35                                  40                                  45

Leu Arg Pro Gly Val Ser Val Thr Leu Leu Gly Ser Val Cys Leu Gln  
                   50                                  55                                  60

Asp Leu Pro Pro Leu Pro Trp Tyr Arg Arg Lys Val Leu  
                   65                                  70                                  75

<210> 743  
 <211> 60  
 <212> PRT  
 <213> Homo sapiens

<400> 743  
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Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu Ala Ser Leu Gly Ser Ser  
                   20                                  25                                  30

Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp Arg Gln Ala Asp Pro Ser  
                   35                                  40                                  45

Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu Leu Phe  
           50                                  55                                  60

<210> 744

<211> 76

<212> PRT

<213> Homo sapiens

<400> 744

Met Cys Leu Cys Ile Pro Leu Gly Gly Tyr Gln Glu Leu Cys His Cys  
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Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Pro Gln Leu Gly Ser Arg  
                                   20                                  25                                  30

Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro  
                                   35                                  40                                  45

Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly  
                                   50                                  55                                  60

Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys  
           65                                  70                                  75

<210> 745

<211> 76

<212> PRT

<213> Homo sapiens

<400> 745

Met Val Lys Ser Arg Phe Thr Lys Asn Thr Lys Ile Thr Gln Ala Trp  
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Trp Arg Ala Pro Val Ile Pro Gly Thr Arg Glu Ala Glu Gly Gly Glu  
                                   20                                  25                                  30

Ser Leu Glu Pro Gly Arg Leu Arg Glu Glu Asn Arg Leu Asn Pro Gly  
                                   35                                  40                                  45

Gly Arg Gly Cys Ser Glu Pro Arg Ser Cys Cys Cys Thr Pro Ala Trp  
                                   50                                  55                                  60

Ser Thr Glu Gln Asp Ser Ala Ser Lys Thr Asn Lys  
           65                                  70                                  75

<210> 746

<211> 80

<212> PRT

<213> Homo sapiens

<400> 746

Met Leu Leu His Ser Ser Leu Val Asn Arg Ala Arg Leu Cys Leu Lys

292

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 Ala Gln Trp Leu Thr Pro Val Ile Pro Ala Leu Trp Glu Ala Lys Val  
 50 55 60  
 Gly Gly Ser Phe Glu Val Arg Ser Leu Arg Ser Ala Trp Pro Thr Trp  
 65 70 75 80

<210> 747  
 <211> 72  
 <212> PRT  
 <213> Homo sapiens

<400> 747  
 Met His Tyr His Lys Asn Ser Met Gly Lys Ile Pro Pro His Asn Pro  
 5 10 15  
 Ile Thr Ser His Gln Val Ser Ser Asp Thr Trp Asp Trp Val Gly Thr  
 20 25 30  
 Gln Ser Gln Thr Val Ser Asp Ala Ala Gly Ala Gly Asp Thr Glu Thr  
 35 40 45  
 Thr Gln Thr Trp Cys Leu Cys His Ser Ser Gly Leu Cys Leu Ser Pro  
 50 55 60  
 Gly Pro Pro Ser Pro Ser Met Val  
 65 70

<210> 748  
 <211> 77  
 <212> PRT  
 <213> Homo sapiens

<400> 748  
 Met His Tyr His Lys Asn Ser Met Gly Lys Ile Pro Pro Ile Ile Gln  
 5 10 15  
 Ser Pro Pro Thr Arg Ser Pro Pro Thr Arg Gly Ile Gly Trp Gly His  
 20 25 30  
 Arg Ala Lys Pro Tyr Gln Met Leu Gln Gly Leu Gly Thr Leu Arg Pro  
 35 40 45  
 Leu Arg Pro Gly Val Ser Val Thr Leu Leu Gly Ser Val Cys Leu Gln  
 50 55 60  
 Asp Leu Pro Pro Leu Pro Trp Tyr Arg Arg Lys Val Leu  
 65 70 75

<210> 749  
 <211> 60  
 <212> PRT  
 <213> Homo sapiens

<400> 749  
 Met Leu Val His Ile Tyr Ser Cys Cys Gly Met Val Tyr Arg Phe Gly  
                   5                  10                  15  
 Gln Met Ser Asp Asn Pro Phe Tyr Ile Leu Ala Ser Leu Gly Ser Ser  
                   20                  25                  30  
 Ser Cys Arg Asn Gly Leu Ala Ser Lys Trp Arg Gln Ala Asp Pro Ser  
                   35                  40                  45  
 Asp Gly Tyr Met Glu Pro Cys Phe Gln Leu Leu Phe  
           50                  55                  60

<210> 750  
 <211> 76  
 <212> PRT  
 <213> Homo sapiens

<400> 750  
 Met Cys Leu Cys Ile Pro Leu Gly Gly Tyr Gln Glu Leu Cys His Cys  
                   5                  10                  15  
 Met Ser Thr Ser Asp Gly Phe Ala Pro Pro Pro Gln Leu Gly Ser Arg  
                   20                  25                  30  
 Cys Ser His Ile Arg Gly Pro Ile Lys Ile Ala Arg Asn Lys Phe Pro  
                   35                  40                  45  
 Arg Thr Leu Thr Ser Gln Glu Leu Arg Arg Phe Ala Glu Tyr Ser Gly  
           50                  55                  60  
 Met Met Phe Gly Asp Gln Thr Thr Ala Gly Gln Lys  
           65                  70                  75

<210> 751  
 <211> 2479  
 <212> DNA  
 <213> Homo sapiens

<400> 751  
 gtcattattga acattccaga tacctatcat tactcgatgc tgttgataac agcaagatgg 60  
 ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaacccat ggataccaac 120  
 cggaaaaccc ctatcccgca cagccactg tggccccac tgtctacgag gtgcatccgg 180  
 ctcagtacta cccgtcccc gtgccccagt acgccccgag ggtcctgacg caggcttcca 240  
 acccgcgtgt ctgcacgcag cccaaatccc catccgggac agtgtgcacc tcaaagacta 300  
 agaaagcact gtgcatcacc ttgaccttgg ggaccttctt cgtgggagct gcgctggccg 360  
 ctggcctact ctggaagtgc atgggcagca agtgctccaa ctctgggata gaggcgact 420  
 cctcagggtac ctgcatcaac ccctctaact ggtgtgatgg cgtgtcacac tgccccggcg 480  
 gggaggacga gaatcgggtgt gttcgctctt acggaccaa cttcatcctt cagatgtact 540  
 catctcagag gaagtctgtg caccctgtgt gccaaagacga ctggaacgag aactacgggc 600



```

gggggggctg cagggacatg ggctataaga ataattttta ctctagccaa ggaatagtgg 660
atgacagogg atccaccagc ttatgaaac tgaacacaag tgccggcaat gtogatatct 720
ataaaaaact gtaccacagt gatgcctggt cttcaaaagc agtggtttct ttacgctgtt 780
tagcctgggg ggtaacttg aactcaagcc gccagagcag gatcggtggc ggtgagagcg 840
cgctcccggg ggctggccc tggcaggtca gcctgcacgt ccagaacgtc cacgtgtgcg 900
gaggetccat catcaccccc gattggatcg tgacagccgc ccaactgctg gaaaaacctc 960
ttaacaatcc atggcattgg acggcatttg cggggatttt gagacaatct ttcattgtct 1020
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agaacaatga cattgcgctg atgaagctgc agaagcctct gactttcaac gacctagtga 1140
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cggggtgggg ggccaccgag gagaaaggga agacctcaga agtgctgaac gctgccaaag 1260
tgctttctcat tgagacacag agatgcaaca gcagatatgt ctatgacaac ctgatcacac 1320
cagccatgat ctgtgcgggc ttctgcagg ggaacgtcga ttcttgccag ggtgacagt 1380
gagggcctct ggtcacttcg aacaacaata tctgggtggt gataggggat acaagctggg 1440
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actggattta tccacaaatg aaggcaaacg gctaattcac atggtcttcg tcttgacgt 1560
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tccccagcct acttcacaa gggattttgc tgatgggttc ttagagcctt agcagccctg 2040
gatggtggcc aaaaataaac ggaccagccc ttcattgggtg gtgacgtggt agtcacttgt 2100
aaggggaaca gaaacatttt tgtttctatg ggggtgagaat atagacagt ccttggtgc 2160
gaggaagca attgaaaagg aacttgccct gagcactcct ggtgcaggtc tccacctgca 2220
cattgggtgg ggtccttggg agggagactc agccttctc ctcatctcc ctgacctgc 2280
tctagcacc ctggagagtg aatgcccctt ggtccctggc agggcgccaa gtttggcacc 2340
atgtcggcct ctacaggcct gatagtcatt ggaaattgag gtccatggg gaaatcaagg 2400
atgtcagtt taagggtacac tgtttccatg ttatgtttct acacattgat ggtggtgacc 2460
ctgagttcaa agccatctt

```

&lt;210&gt; 752

&lt;211&gt; 492

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 752

```

Met Ala Leu Asn Ser Gly Ser Pro Pro Ala Ile Gly Pro Tyr Tyr Glu
      5                                10                                15

```

```

Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro Thr Val
      20                                25                                30

```

```

Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr Pro Ser Pro
      35                                40                                45

```

```

Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala Ser Asn Pro Val
      50                                55                                60

```

```

Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr Val Cys Thr Ser Lys
      65                                70                                75                                80

```

```

Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr Leu Gly Thr Phe Leu Val
      85                                90                                95

```

```

Gly Ala Ala Leu Ala Ala Gly Leu Leu Trp Lys Phe Met Gly Ser Lys

```

100					105					110					
Cys	Ser	Asn	Ser	Gly	Ile	Glu	Cys	Asp	Ser	Ser	Gly	Thr	Cys	Ile	Asn
		115					120					125			
Pro	Ser	Asn	Trp	Cys	Asp	Gly	Val	Ser	His	Cys	Pro	Gly	Gly	Glu	Asp
		130				135					140				
Glu	Asn	Arg	Cys	Val	Arg	Leu	Tyr	Gly	Pro	Asn	Phe	Ile	Leu	Gln	Met
145					150					155					160
Tyr	Ser	Ser	Gln	Arg	Lys	Ser	Trp	His	Pro	Val	Cys	Gln	Asp	Asp	Trp
				165					170					175	
Asn	Glu	Asn	Tyr	Gly	Arg	Ala	Ala	Cys	Arg	Asp	Met	Gly	Tyr	Lys	Asn
			180					185					190		
Asn	Phe	Tyr	Ser	Ser	Gln	Gly	Ile	Val	Asp	Asp	Ser	Gly	Ser	Thr	Ser
		195					200					205			
Phe	Met	Lys	Leu	Asn	Thr	Ser	Ala	Gly	Asn	Val	Asp	Ile	Tyr	Lys	Lys
		210					215					220			
Leu	Tyr	His	Ser	Asp	Ala	Cys	Ser	Ser	Lys	Ala	Val	Val	Ser	Leu	Arg
225					230					235					240
Cys	Leu	Ala	Cys	Gly	Val	Asn	Leu	Asn	Ser	Ser	Arg	Gln	Ser	Arg	Ile
				245					250					255	
Val	Gly	Gly	Glu	Ser	Ala	Leu	Pro	Gly	Ala	Trp	Pro	Trp	Gln	Val	Ser
			260					265					270		
Leu	His	Val	Gln	Asn	Val	His	Val	Cys	Gly	Gly	Ser	Ile	Ile	Thr	Pro
		275					280					285			
Glu	Trp	Ile	Val	Thr	Ala	Ala	His	Cys	Val	Glu	Lys	Pro	Leu	Asn	Asn
		290				295					300				
Pro	Trp	His	Trp	Thr	Ala	Phe	Ala	Gly	Ile	Leu	Arg	Gln	Ser	Phe	Met
305					310					315					320
Phe	Tyr	Gly	Ala	Gly	Tyr	Gln	Val	Gln	Lys	Val	Ile	Ser	His	Pro	Asn
				325					330					335	
Tyr	Asp	Ser	Lys	Thr	Lys	Asn	Asn	Asp	Ile	Ala	Leu	Met	Lys	Leu	Gln
			340					345					350		
Lys	Pro	Leu	Thr	Phe	Asn	Asp	Leu	Val	Lys	Pro	Val	Cys	Leu	Pro	Asn
		355					360					365			
Pro	Gly	Met	Met	Leu	Gln	Pro	Glu	Gln	Leu	Cys	Trp	Ile	Ser	Gly	Trp
		370				375					380				
Gly	Ala	Thr	Glu	Glu	Lys	Gly	Lys	Thr	Ser	Glu	Val	Leu	Asn	Ala	Ala
385					390					395					400
Lys	Val	Leu	Leu	Ile	Glu	Thr	Gln	Arg	Cys	Asn	Ser	Arg	Tyr	Val	Tyr
				405					410					415	

Asp Asn Leu Ile Thr Pro Ala Met Ile Cys Ala Gly Phe Leu Gln Gly  
 420 425 430

Asn Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Thr Ser  
 435 440 445

Asn Asn Asn Ile Trp Trp Leu Ile Gly Asp Thr Ser Trp Gly Ser Gly  
 450 455 460

Cys Ala Lys Ala Tyr Arg Pro Gly Val Tyr Gly Asn Val Met Val Phe  
 465 470 475 480

Thr Asp Trp Ile Tyr Arg Gln Met Lys Ala Asn Gly  
 485 490

<210> 753  
 <211> 683  
 <212> DNA  
 <213> Homo sapiens

<400> 753  
 gtcattatga acattccaga tacctatcat tactcgatgc tgttgataac agcaagatgg 60  
 ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat ggataccaac 120  
 cggaaaaccc ctatcccga cagcccactg tgggtcccccac tgtctacgag gtgcatccgg 180  
 ctcagtacta cccgtccccc gtgccccagt acgccccgag ggtcctgacg caggcttcca 240  
 accccgtcgt ctgcacgcag cccaaatccc cacccgaggac agtgtgcacc tcaaagacta 300  
 agaaagcact gtgcatcacc ttgacctgg ggaccttct cgtgggagct gcgctggccg 360  
 ctggcctact ctggaagtgc atgggcagca agtgctccaa ctctgggata gagtgcgact 420  
 cctcaggtac ctgcatcaac cctctaaact ggtgtgatgg cgtgtcacac tgccccggcg 480  
 gggaggacga gaatcggtgt gttcgctct acggaccaaa cttcatcctt cagatgtact 540  
 catccagag gaagtcctgg caccctgtgt gccaaagcga ctggaacgag aactacgggc 600  
 gggggcctg cagggacatg ggctataaga ataattttta ctctagccaa ggaatagtgg 660  
 atgacagcgg atccaccagc ttt 683

<210> 754  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 754  
 Met Ala Leu Asn Ser Gly Ser Pro Pro Ala Ile Gly Pro Tyr Tyr Glu  
 1 5 10 15  
 Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro Thr Val  
 20 25 30  
 Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr Pro Ser Pro  
 35 40 45  
 Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala Ser Asn Pro Val  
 50 55 60  
 Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr Val Cys Thr Ser Lys  
 65 70 75 80  
 Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr Leu Gly Thr Phe Leu Val  
 85 90 95

297

Gly Ala Ala Leu Ala Ala Gly Leu Leu Trp Lys Phe Met Gly Ser Lys  
                   100                                  105                  110  
 Cys Ser Asn Ser Gly Ile Glu Cys Asp Ser Ser Gly Thr Cys Ile Asn  
                   115                                  120                  125  
 Pro Ser Asn Trp Cys Asp Gly Val Ser His Cys Pro Gly Gly Glu Asp  
                   130                                  135                  140  
 Glu Asn Arg Cys Val Arg Leu Tyr Gly Pro Asn Phe Ile Leu Gln Met  
                   145                                  150                  155                  160  
 Tyr Ser Ser Gln Arg Lys Ser Trp His Pro Val Cys Gln Asp Asp Trp  
                                   165                                  170                  175  
 Asn Glu Asn Tyr Gly Arg Ala Ala Cys Arg Asp Met Gly Tyr Lys Asn  
                                   180                                  185                  190  
 Asn Phe Tyr Ser Ser Gln Gly Ile Val Asp Asp Ser Gly Ser Thr Ser  
                   195                                  200                  205  
 Phe

<210> 755  
 <211> 27  
 <212> PRT  
 <213> Homo sapiens

<400> 755  
 Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly Thr  
   1                                  5                                  10                                  15  
 Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg  
                                   20                                  25

<210> 756  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 756  
 ggatccgccg ccaccatgtc actttctagc ctgct

35

<210> 757  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 757  
 gtcgactcag ctggaccaca gccgcag

27

<210> 758  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 758  
 aaatcgcgcg ccaccatggg ctgcaggctg ctct 34

<210> 759  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 759  
 gtcgactcag aaatcctttc tcttgac 27

<210> 760  
 <211> 936  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...()  
 <223> n = A,T,C or G

<400> 760  
 atgggctgca ggctgntctg ctgtgcggtt ctctgtctcc tgggagcggg ccccatggaa 60  
 acgggagtta cgcagacacc aagacacctg gtcattggga tgacaaataa gaagtctttg 120  
 aaatgtgaac aacatctggg tcataacgct atgtattggt acaagcaaag tgctaagaag 180  
 ccaactggagc tcatgtttgt ctacagtctt gaagaacggg ttgaaaacaa cagtgtgcca 240  
 agtcgcttct cacctgaatg ccccaacagc tctcacttat tccttcacct acacaccctg 300  
 cagccagaag actcggccct gtatctctgc gccagcagcc aagaccggac aagcagctcc 360  
 tacyagcagt acttcgggac gggcaccagg ctccacggta cagaggacct gaaaaacgtg 420  
 ttcccacccg aggtcgctgt gtttgagcca tcagaagcag agatctccca caccacaaaag 480  
 gccacactgg tgtgcctggc cacaggcttc taccctgacc acgtggagct gagctggtgg 540  
 gtgaatggga aggaggtgca cagtgggggc agcacagacc cgcagccctt caaggagcag 600  
 cccgccctca atgactccag atactgcctg agcagccgcc tgagggtctc ggccaccttc 660  
 tggcagaacc cccgcaacca ctccgcgtgt caagtccagt tctacgggct ctccggagaat 720  
 gacgagtggg cccaggatag ggccaaacct gtcacccaga tcgtcagcgc cgaggcctgg 780  
 ggtagagcag actgtggctt cacctccgag tcttaccagc aaggggtcct gtctgccacc 840  
 atcctctatg agatcttget aggggaaggcc accttgatg ccgtgctggt cagtgccttc 900  
 gtgctgatgg ccattggtcaa gagaaaggat ttctga 936

<210> 761  
 <211> 834  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1)...()  
 <223> n = A,T,C or G

<400> 761  
 atgtcacttt ctagectgct naaggtgggc acagcttcac tgtggctagg acctggcatt 60  
 gccacagaaga taactcaaac ccaaccagga atgttcgtgc aggaaaagga ggctgtgact 120  
 ctggactgca catatgacac cagtgatcaa agttatgggc tcttctggta caagcagccc 180

```

agcagtgggg aaatgatttt tttattttat caggggtctt atgacgagca aaatgcaaca 240
gaaggtcgct actcattgaa tttccagaag gcaagaaaat ccgccaacct tgtcatctcc 300
gcttcacaac tgggggactc agcaatgtat ttctgtgcaa tgagagaggg cgcgaggga 360
ggaacaaaac tcacctttgg gacaggcact cagctaaaag tggaactcaa tatccagaac 420
cctgaccctg ccgtgtacca gctgagagac tctaaatcca gtgacaagtc tgtctgccta 480
ttcaccgatt ttgattctca aacaaatgtg tcacaaagta aggattctga tgtgtatatc 540
acagacaaaa ctgtgctaga catgaggctc atggacttca agagcaacag tgctgtggcc 600
tggagcaaca aatctgactt tgcattgtca aacgccttca acaacagcat tattccagaa 660
gacaccttct tccccagccc agaaagtccc tgtgatgtca agctgggtcga gaaaagcttt 720
gaaacagata cgaacctaaa ctttcaaac ctgtcagtga ttgggttccg aatcctctc 780
ctgaaagtgg ccgggtttta tctgctcatg acgtgcggc tgtggtccag ctga 834

```

&lt;210&gt; 762

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; variant

&lt;222&gt; (1)...(311)

&lt;223&gt; Xaa = Any amino acid

&lt;400&gt; 762

```

Met Gly Cys Arg Leu Xaa Cys Cys Ala Val Leu Cys Leu Leu Gly Ala
                    5                      10                      15

```

```

Val Pro Met Glu Thr Gly Val Thr Gln Thr Pro Arg His Leu Val Met
                    20                      25                      30

```

```

Gly Met Thr Asn Lys Lys Ser Leu Lys Cys Glu Gln His Leu Gly His
                    35                      40                      45

```

```

Asn Ala Met Tyr Trp Tyr Lys Gln Ser Ala Lys Lys Pro Leu Glu Leu
                    50                      55                      60

```

```

Met Phe Val Tyr Ser Leu Glu Glu Arg Val Glu Asn Asn Ser Val Pro
                    65                      70                      75                      80

```

```

Ser Arg Phe Ser Pro Glu Cys Pro Asn Ser Ser His Leu Phe Leu His
                    85                      90                      95

```

```

Leu His Thr Leu Gln Pro Glu Asp Ser Ala Leu Tyr Leu Cys Ala Ser
                    100                      105                      110

```

```

Ser Gln Asp Arg Thr Ser Ser Ser Tyr Glu Gln Tyr Phe Gly Pro Gly
                    115                      120                      125

```

```

Thr Arg Leu Thr Val Thr Glu Asp Leu Lys Asn Val Phe Pro Pro Glu
                    130                      135                      140

```

```

Val Ala Val Phe Glu Pro Ser Glu Ala Glu Ile Ser His Thr Gln Lys
                    145                      150                      155                      160

```

```

Ala Thr Leu Val Cys Leu Ala Thr Gly Phe Tyr Pro Asp His Val Glu
                    165                      170                      175

```

```

Leu Ser Trp Trp Val Asn Gly Lys Glu Val His Ser Gly Val Ser Thr
                    180                      185                      190

```

300

Asp Pro Gln Pro Leu Lys Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr  
 195 200 205  
 Cys Leu Ser Ser Arg Leu Arg Val Ser Ala Thr Phe Trp Gln Asn Pro  
 210 215 220  
 Arg Asn His Phe Arg Cys Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn  
 225 230 235 240  
 Asp Glu Trp Thr Gln Asp Arg Ala Lys Pro Val Thr Gln Ile Val Ser  
 245 250 255  
 Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly Phe Thr Ser Glu Ser Tyr  
 260 265 270  
 Gln Gln Gly Val Leu Ser Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly  
 275 280 285  
 Lys Ala Thr Leu Tyr Ala Val Leu Val Ser Ala Leu Val Leu Met Ala  
 290 295 300  
 Met Val Lys Arg Lys Asp Phe  
 305 310

<210> 763  
 <211> 277  
 <212> PRT  
 <213> Homo sapiens

<400> 763  
 Met Ser Leu Ser Ser Leu Leu Lys Val Val Thr Ala Ser Leu Trp Leu  
 5 10 15  
 Gly Pro Gly Ile Ala Gln Lys Ile Thr Gln Thr Gln Pro Gly Met Phe  
 20 25 30  
 Val Gln Glu Lys Glu Ala Val Thr Leu Asp Cys Thr Tyr Asp Thr Ser  
 35 40 45  
 Asp Gln Ser Tyr Gly Leu Phe Trp Tyr Lys Gln Pro Ser Ser Gly Glu  
 50 55 60  
 Met Ile Phe Leu Ile Tyr Gln Gly Ser Tyr Asp Glu Gln Asn Ala Thr  
 65 70 75 80  
 Glu Gly Arg Tyr Ser Leu Asn Phe Gln Lys Ala Arg Lys Ser Ala Asn  
 85 90 95  
 Leu Val Ile Ser Ala Ser Gln Leu Gly Asp Ser Ala Met Tyr Phe Cys  
 100 105 110  
 Ala Met Arg Glu Gly Ala Gly Gly Gly Asn Lys Leu Thr Phe Gly Thr  
 115 120 125  
 Gly Thr Gln Leu Lys Val Glu Leu Asn Ile Gln Asn Pro Asp Pro Ala  
 130 135 140

Val Tyr Gln Leu Arg Asp Ser Lys Ser Ser Asp Lys Ser Val Cys Leu  
145 150 155 160

Phe Thr Asp Phe Asp Ser Gln Thr Asn Val Ser Gln Ser Lys Asp Ser  
165 170 175

Asp Val Tyr Ile Thr Asp Lys Thr Val Leu Asp Met Arg Ser Met Asp  
180 185 190

Phe Lys Ser Asn Ser Ala Val Ala Trp Ser Asn Lys Ser Asp Phe Ala  
195 200 205

Cys Ala Asn Ala Phe Asn Asn Ser Ile Ile Pro Glu Asp Thr Phe Phe  
210 215 220

Pro Ser Pro Glu Ser Ser Cys Asp Val Lys Leu Val Glu Lys Ser Phe  
225 230 235 240

Glu Thr Asp Thr Asn Leu Asn Phe Gln Asn Leu Ser Val Ile Gly Phe  
245 250 255

Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn Leu Leu Met Thr Leu  
260 265 270

Arg Leu Trp Ser Ser  
275

<210> 764

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 764

```

atgtacaacc tgttgctgtc ctacgacaga catggggacc acctgcagcc cctggacctc 60
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atgtttcagc acctgatgca gaagcggagc cacacccagt ggacgtatgg accactgacc 180
togactctct atgacctcac agagatcgac tcctcagggg atgagcagtc cctgctggaa 240
cttatcatca ccaccaagaa gcgggaggct cgccagatcc tggaccagac gccggtgaag 300
gagctggtga gcctcaagtg gaagcggtag gggcgggcgt acttctgcat gctgggtgcc 360
atatatctgc tgtacatcat ctgcttcacc atgtgctgca tctaccgcc cctcaagccc 420
aggaccaata accgcacgag cccccgggac aacacctctt tacagcagaa gctacttcag 480
gaagcctaca tgaccttaa ggacgatatc cggctggtcg gggagctggt gactgtcatt 540
ggggctatca tcatcctgct ggtagagggt ccagacatct tcagaatggg ggtcactcgc 600
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<210> 765
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<212> DNA
<213> Homo sapiens

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<211> 511
<212> PRT
<213> Homo sapiens

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Ala Gly Val Glu Gly Asn Thr Val Met Phe Gln His Leu Met Gln Lys
          35                      40                      45

Arg Lys His Thr Gln Trp Thr Tyr Gly Pro Leu Thr Ser Thr Leu Tyr
          50                      55                      60

Asp Leu Thr Glu Ile Asp Ser Ser Gly Asp Glu Gln Ser Leu Leu Glu
          65                      70                      75                      80

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Pro	Tyr	Phe	Cys	Met	Leu	Gly	Ala	Ile	Tyr	Leu	Leu	Tyr	Ile	Ile	Cys	
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Phe	Thr	Met	Cys	Cys	Ile	Tyr	Arg	Pro	Leu	Lys	Pro	Arg	Thr	Asn	Asn	
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Arg	Thr	Ser	Pro	Arg	Asp	Asn	Thr	Leu	Leu	Gln	Gln	Lys	Leu	Leu	Gln	
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Glu	Ala	Tyr	Met	Thr	Pro	Lys	Asp	Asp	Ile	Arg	Leu	Val	Gly	Glu	Leu	
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Ser	Phe	Ala	Leu	Val	Leu	Gly	Trp	Cys	Asn	Val	Met	Tyr	Phe	Ala	Arg	
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Gly	Phe	Gln	Met	Leu	Gly	Pro	Phe	Thr	Ile	Met	Ile	Gln	Lys	Met	Ile	
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Glu	Leu	Gly	His	Phe	Tyr	Asp	Tyr	Pro	Met	Ala	Leu	Phe	Ser	Thr	Phe	
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Glu	Leu	Phe	Leu	Thr	Ile	Ile	Asp	Gly	Pro	Ala	Asn	Tyr	Asn	Val	Asp	
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Leu	Pro	Phe	Met	Tyr	Ser	Ile	Thr	Tyr	Ala	Ala	Phe	Ala	Ile	Ile	Ala	
			340					345					350			
Thr	Leu	Leu	Met	Leu	Asn	Leu	Leu	Ile	Ala	Met	Met	Gly	Asp	Thr	His	
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Trp	Arg	Val	Ala	His	Glu	Arg	Asp	Glu	Leu	Trp	Arg	Ala	Gln	Ile	Val	
	370					375					380					
Ala	Thr	Thr	Val	Met	Leu	Glu	Arg	Lys	Leu	Pro	Arg	Cys	Leu	Trp	Pro	

385                      390                      395                      400  
 Arg Ser Gly Ile Cys Gly Arg Glu Tyr Gly Leu Gly Asp Arg Trp Phe  
                                  405                      410                      415  
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                                  420                      425                      430  
 Tyr Ala Gln Ala Phe His Thr Arg Gly Ser Glu Asp Leu Asp Lys Asp  
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 Ser Val Glu Lys Leu Glu Leu Gly Cys Pro Phe Ser Pro His Leu Ser  
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 Leu Pro Met Pro Ser Val Ser Arg Ser Thr Ser Arg Ser Ser Ala Asn  
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 Trp Glu Arg Leu Arg Gln Gly Thr Leu Arg Arg Asp Leu Arg Gly Ile  
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                                  20                      25                      30  
 Ala Gly Val Glu Gly Asn Thr Val Met Phe Gln His Leu Met Gln Lys  
                                  35                      40                      45  
 Arg Lys His Thr Gln Trp Thr Tyr Gly Pro Leu Thr Ser Thr Leu Tyr  
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 Asp Leu Thr Glu Ile Asp Ser Ser Gly Asp Glu Gln Ser Leu Leu Glu  
                                  65                      70                      75                      80  
 Leu Ile Ile Thr Thr Lys Lys Arg Glu Ala Arg Gln Ile Leu Asp Gln  
                                  85                      90                      95  
 Thr Pro Val Lys Glu Leu Val Ser Leu Lys Trp Lys Arg Tyr Gly Arg  
                                  100                      105                      110  
 Pro Tyr Phe Cys Met Leu Gly Ala Ile Tyr Leu Leu Tyr Ile Ile Cys  
                                  115                      120                      125  
 Phe Thr Met Cys Cys Ile  
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305

<210> 768  
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 <212> PRT  
 <213> Homo sapiens

<400> 768

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Asp Asn Thr Leu Leu Gln Gln Lys Leu Leu Gln Glu Ala Tyr Met Thr  
                           20                          25                          30

Pro Lys Asp Asp Ile Arg Leu Val Gly Glu Leu Val Thr Val Ile Gly  
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Ala Ile Ile Ile Leu Leu Val  
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<210> 769  
 <211> 39  
 <212> PRT  
 <213> Homo sapiens

<400> 769

Glu Val Pro Asp Ile Phe Arg Met Gly Val Thr Arg Phe Phe Gly Gln  
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Thr Ile Leu Gly Gly Pro Phe His Val Leu Ile Ile Thr Tyr Ala Phe  
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Met Val Leu Val Thr Met Val  
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<210> 770  
 <211> 19  
 <212> PRT  
 <213> Homo sapiens

<400> 770

Met Arg Leu Ile Ser Ala Ser Gly Glu Val Val Pro Met Ser Phe Ala  
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Leu Val Leu

<210> 771  
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 <212> PRT  
 <213> Homo sapiens

<400> 771

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Pro Phe Thr Ile Met Ile Gln Lys Met Ile Phe Gly Asp Leu Met Arg

306

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 Ala Asn Tyr Asn Val Asp Leu Pro Phe Met Tyr Ser Ile Thr Tyr Ala  
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 Ala Phe Ala Ile Ile Ala Thr Leu Leu Met Leu Asn Leu Leu Ile Ala  
 50 55 60  
 Met Met Gly Asp Thr His Trp Arg Val Ala His Glu Arg Asp Glu Leu  
 65 70 75 80  
 Trp Arg Ala Gln Ile Val Ala Thr Thr Val Met Leu Glu Arg Lys Leu  
 85 90 95  
 Pro Arg Cys Leu Trp Pro Arg Ser Gly Ile Cys Gly Arg Glu Tyr Gly  
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 115 120 125  
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 130 135 140  
 Glu Asp Leu Asp Lys Asp Ser Val Glu Lys Leu Glu Leu Gly Cys Pro  
 145 150 155 160  
 Phe Ser Pro His Leu Ser Leu Pro Met Pro Ser Val Ser Arg Ser Thr  
 165 170 175  
 Ser Arg Ser Ser Ala Asn Trp Glu Arg Leu Arg Gln Gly Thr Leu Arg  
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<210> 773  
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<400> 773

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<210> 774  
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 <212> DNA  
 <213> Homo sapiens

<400> 774

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&lt;210&gt; 775

&lt;211&gt; 957

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 775

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&lt;210&gt; 776

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 776

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<211> 318

<212> PRT

<213> Homo sapiens

<400> 777

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			20					25					30			
Pro	Leu	Cys	Ser	Leu	Tyr	Leu	Ile	Ala	Val	Leu	Gly	Asn	Leu	Thr	Ile	
		35					40					45				
Ile	Tyr	Ile	Val	Arg	Thr	Glu	His	Ser	Leu	His	Glu	Pro	Met	Tyr	Ile	
	50					55					60					
Phe	Leu	Cys	Met	Leu	Ser	Gly	Ile	Asp	Ile	Leu	Ile	Ser	Thr	Ser	Ser	
65					70					75					80	
Met	Pro	Lys	Met	Leu	Ala	Ile	Phe	Trp	Phe	Asn	Ser	Thr	Thr	Ile	Gln	
				85					90					95		
Phe	Asp	Ala	Cys	Leu	Leu	Gln	Met	Phe	Ala	Ile	His	Ser	Leu	Ser	Gly	
			100					105						110		
Met	Glu	Ser	Thr	Val	Leu	Leu	Ala	Met	Ala	Phe	Asp	Arg	Tyr	Val	Ala	
		115					120					125				
Ile	Cys	His	Pro	Leu	Arg	His	Ala	Thr	Val	Leu	Thr	Leu	Pro	Arg	Val	
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Thr	Lys	Ile	Gly	Val	Ala	Ala	Val	Val	Arg	Gly	Ala	Ala	Leu	Met	Ala	
145					150					155				160		
Pro	Leu	Pro	Val	Phe	Ile	Lys	Gln	Leu	Pro	Phe	Cys	Arg	Ser	Asn	Ile	
				165					170					175		
Leu	Ser	His	Ser	Tyr	Cys	Leu	His	Gln	Asp	Val	Met	Lys	Leu	Ala	Cys	
			180					185					190			
Asp	Asp	Ile	Arg	Val	Asn	Val	Val	Tyr	Gly	Leu	Ile	Val	Ile	Ile	Ser	
		195					200					205				
Ala	Ile	Gly	Leu	Asp	Ser	Leu	Leu	Ile	Ser	Phe	Ser	Tyr	Leu	Leu	Ile	
	210					215					220					
Leu	Lys	Thr	Val	Leu	Gly	Leu	Thr	Arg	Glu	Ala	Gln	Ala	Lys	Ala	Phe	
225					230					235					240	
Gly	Thr	Cys	Val	Ser	His	Val	Cys	Ala	Val	Phe	Ile	Phe	Tyr	Val	Pro	
				245					250					255		



310

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser  
                   260                                  265                                  270

Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val  
                   275                                  280                                  285

Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg  
                   290                                  295                                  300

Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro  
                   305                                  310                                  315

&lt;210&gt; 778

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 778

Met Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile  
                                   5                                  10                                  15

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe  
                   20                                  25

&lt;210&gt; 779

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 779

Arg Thr Glu His Ser Leu His Glu Pro  
                                   5

&lt;210&gt; 780

&lt;211&gt; 21

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 780

Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln Phe Asp  
                                   5                                  10                                  15

Ala Cys Leu Leu Gln  
                   20

&lt;210&gt; 781

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 781

Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg His Ala Thr Val Leu  
                                   5                                  10                                  15

Thr Leu Pro Arg  
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<210> 782  
<211> 37  
<212> PRT  
<213> Homo sapiens

<400> 782  
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Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Asp Asp Ile Arg  
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Val Asn Val Val Tyr  
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<210> 783  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 783  
Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys  
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<210> 784  
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<212> PRT  
<213> Homo sapiens

<400> 784  
Val His Arg Phe Ser Lys Arg Arg Asp Ser  
5 10

<210> 785  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 785  
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Thr His Ala Ser Glu Pro  
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<210> 786  
<211> 3245  
<212> DNA  
<213> Homo sapiens

&lt;400&gt; 786

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<210> 787  
 <211> 1479  
 <212> DNA  
 <213> Homo sapiens

<400> 787

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<210> 788  
 <211> 1476  
 <212> DNA  
 <213> Homo sapiens

<400> 788

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caggactgga tttatcgaca aatgagggca gacggc 1476

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&lt;210&gt; 789

&lt;211&gt; 492

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 789

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Met Ala Leu Asn Ser Gly Ser Pro Pro Ala Ile Gly Pro Tyr Tyr Glu
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Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro Thr Val
      20      25      30
Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr Pro Ser Pro
      35      40      45
Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala Ser Asn Pro Val
      50      55      60
Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr Val Cys Thr Ser Lys
      65      70      75      80
Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr Leu Gly Thr Phe Leu Val
      85      90      95
Gly Ala Ala Leu Ala Ala Gly Leu Leu Trp Lys Phe Met Gly Ser Lys
      100      105      110
Cys Ser Asn Ser Gly Ile Glu Cys Asp Ser Ser Gly Thr Cys Ile Asn
      115      120      125
Pro Ser Asn Trp Cys Asp Gly Val Ser His Cys Pro Gly Gly Glu Asp
      130      135      140
Glu Asn Arg Cys Val Arg Leu Tyr Gly Ser Asn Phe Ile Leu Gln Val
      145      150      155      160
Tyr Ser Ser Gln Arg Lys Ser Trp His Pro Val Cys Gln Asp Asp Trp
      165      170      175
Asn Glu Asn Tyr Gly Arg Ala Ala Cys Arg Asp Met Gly Tyr Lys Asn
      180      185      190
Asn Phe Tyr Ser Ser Gln Gly Ile Val Asp Asp Ser Gly Ser Thr Ser
      195      200      205
Phe Met Lys Leu Asn Thr Ser Ala Gly Asn Val Asp Ile Tyr Lys Lys
      210      215      220
Leu Tyr His Ser Asp Ala Cys Ser Ser Lys Ala Val Val Ser Leu Arg
      225      230      235      240
Cys Ile Ala Cys Gly Val Asn Leu Asn Ser Ser Arg Gln Ser Arg Ile
      245      250      255
Val Gly Gly Glu Ser Ala Leu Pro Gly Ala Trp Pro Trp Gln Val Ser
      260      265      270
Leu His Val Gln Asn Val His Val Cys Gly Gly Ser Ile Ile Thr Pro
      275      280      285
Glu Trp Ile Val Thr Ala Ala His Cys Val Glu Lys Pro Leu Asn Asn
      290      295      300
Pro Trp His Trp Thr Ala Phe Ala Gly Ile Leu Arg Gln Ser Phe Met
      305      310      315      320
Phe Tyr Gly Ala Gly Tyr Gln Val Glu Lys Val Ile Ser His Pro Asn
      325      330      335
Tyr Asp Ser Lys Thr Lys Asn Asn Asp Ile Ala Leu Met Lys Leu Gln
      340      345      350

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315

Lys Pro Leu Thr Phe Asn Asp Leu Val Lys Pro Val Cys Leu Pro Asn  
                   355                                  360                                  365  
 Pro Gly Met Met Leu Gln Pro Glu Gln Leu Cys Trp Ile Ser Gly Trp  
                   370                                  375                                  380  
 Gly Ala Thr Glu Glu Lys Gly Lys Thr Ser Glu Val Leu Asn Ala Ala  
 385                                  390                                  395                                  400  
 Lys Val Leu Leu Ile Glu Thr Gln Arg Cys Asn Ser Arg Tyr Val Tyr  
                                   405                                  410                                  415  
 Asp Asn Leu Ile Thr Pro Ala Met Ile Cys Ala Gly Phe Leu Gln Gly  
                                   420                                  425                                  430  
 Asn Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Thr Ser  
                                   435                                  440                                  445  
 Lys Asn Asn Ile Trp Trp Leu Ile Gly Asp Thr Ser Trp Gly Ser Gly  
                                   450                                  455                                  460  
 Cys Ala Lys Ala Tyr Arg Pro Gly Val Tyr Gly Asn Val Met Val Phe  
 465                                  470                                  475                                  480  
 Thr Asp Trp Ile Tyr Arg Gln Met Arg Ala Asp Gly  
                                   485                                  490

&lt;210&gt; 790

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 790

Met Ala Leu Asn Ser Gly Ser Pro Pro Ala Ile Gly Pro Tyr Tyr Glu  
                                   5                                  10                                  15  
 Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro Thr Val  
                                   20                                  25                                  30  
 Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr Pro Ser Pro  
                                   35                                  40                                  45  
 Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala Ser Asn Pro Val  
                                   50                                  55                                  60  
 Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr Val Cys Thr Ser Lys  
                                   65                                  70                                  75                                  80  
 Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr Leu Gly Thr Phe Leu Val  
                                   85                                  90                                  95  
 Gly Ala Ala Leu  
                                   100

&lt;210&gt; 791

&lt;211&gt; 393

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 791

Leu Ala Ala Gly Leu Leu Trp Lys Phe Met Gly Ser Lys Cys Ser Asn  
                                   5                                  10                                  15  
 Ser Gly Ile Glu Cys Asp Ser Ser Gly Thr Cys Ile Asn Pro Ser Asn  
                                   20                                  25                                  30  
 Trp Cys Asp Gly Val Ser His Cys Pro Gly Gly Glu Asp Glu Asn Arg  
                                   35                                  40                                  45  
 Cys Val Arg Leu Tyr Gly Ser Asn Phe Ile Leu Gln Val Tyr Ser Ser  
                                   50                                  55                                  60  
 Gln Arg Lys Ser Trp His Pro Val Cys Gln Asp Asp Trp Asn Glu Asn  
                                   65                                  70                                  75                                  80

Tyr Gly Arg Ala Ala Cys Arg Asp Met Gly Tyr Lys Asn Asn Phe Tyr  
                                     85                                    90                                    95  
 Ser Ser Gln Gly Ile Val Asp Asp Ser Gly Ser Thr Ser Phe Met Lys  
                                     100                                    105                                    110  
 Leu Asn Thr Ser Ala Gly Asn Val Asp Ile Tyr Lys Lys Leu Tyr His  
                                     115                                    120                                    125  
 Ser Asp Ala Cys Ser Ser Lys Ala Val Val Ser Leu Arg Cys Ile Ala  
                                     130                                    135                                    140  
 Cys Gly Val Asn Leu Asn Ser Ser Arg Gln Ser Arg Ile Val Gly Gly  
                                     145                                    150                                    155                                    160  
 Glu Ser Ala Leu Pro Gly Ala Trp Pro Trp Gln Val Ser Leu His Val  
                                     165                                    170                                    175  
 Gln Asn Val His Val Cys Gly Gly Ser Ile Ile Thr Pro Glu Trp Ile  
                                     180                                    185                                    190  
 Val Thr Ala Ala His Cys Val Glu Lys Pro Leu Asn Asn Pro Trp His  
                                     195                                    200                                    205  
 Trp Thr Ala Phe Ala Gly Ile Leu Arg Gln Ser Phe Met Phe Tyr Gly  
                                     210                                    215                                    220  
 Ala Gly Tyr Gln Val Glu Lys Val Ile Ser His Pro Asn Tyr Asp Ser  
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 Lys Thr Lys Asn Asn Asp Ile Ala Leu Met Lys Leu Gln Lys Pro Leu  
                                     245                                    250                                    255  
 Thr Phe Asn Asp Leu Val Lys Pro Val Cys Leu Pro Asn Pro Gly Met  
                                     260                                    265                                    270  
 Met Leu Gln Pro Glu Gln Leu Cys Trp Ile Ser Gly Trp Gly Ala Thr  
                                     275                                    280                                    285  
 Glu Glu Lys Gly Lys Thr Ser Glu Val Leu Asn Ala Ala Lys Val Leu  
                                     290                                    295                                    300  
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                                     305                                    310                                    315                                    320  
 Ile Thr Pro Ala Met Ile Cys Ala Gly Phe Leu Gln Gly Asn Val Asp  
                                     325                                    330                                    335  
 Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Thr Ser Lys Asn Asn  
                                     340                                    345                                    350  
 Ile Trp Trp Leu Ile Gly Asp Thr Ser Trp Gly Ser Gly Cys Ala Lys  
                                     355                                    360                                    365  
 Ala Tyr Arg Pro Gly Val Tyr Gly Asn Val Met Val Phe Thr Asp Trp  
                                     370                                    375                                    380  
 Ile Tyr Arg Gln Met Arg Ala Asp Gly  
                                     385                                    390

&lt;210&gt; 792

&lt;211&gt; 595

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 792

Met Ser Phe Leu Asn Phe Thr Ala Val Leu Phe Ala Ala Ser Ser Ala  
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 Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln Ile  
                                     20                                    25                                    30  
 Pro Ala Glu Ala Val Ile Gly Tyr Ser Asp Leu Glu Gly Asp Phe Asp  
                                     35                                    40                                    45  
 Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu Phe  
                                     50                                    55                                    60  
 Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val Ser  
                                     65                                    70                                    75                                    80

Leu Glu Lys Arg Glu Ala Glu Ala Met Val Leu Gly Ile Gly Pro Val  
 85 90 95  
 Leu Gly Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp  
 100 105 110  
 Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu  
 115 120 125  
 Gly Ile Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala  
 130 135 140  
 Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile  
 145 150 155 160  
 Leu Gly Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro  
 165 170 175  
 Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg  
 180 185 190  
 Gln Ala Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu  
 195 200 205  
 Gly Tyr Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro  
 210 215 220  
 Tyr Leu Gly Thr Gln Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile  
 225 230 235 240  
 Phe Leu Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala  
 245 250 255  
 Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser  
 260 265 270  
 Pro His Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly  
 275 280 285  
 Ala Leu Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr  
 290 295 300  
 Leu Arg Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met  
 305 310 315 320  
 Thr Phe Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln  
 325 330 335  
 Gly Val Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp  
 340 345 350  
 Glu Gly Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile  
 355 360 365  
 Ser Leu Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly  
 370 375 380  
 Thr Arg Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala  
 385 390 395 400  
 Gly Ala Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala  
 405 410 415  
 Ala Leu Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr  
 420 425 430  
 Leu Ala Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr  
 435 440 445  
 Arg Gly Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser  
 450 455 460  
 Phe Leu Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val  
 465 470 475 480  
 Gly Ala Gly Gly Ser Gly Leu Leu Pro Pro Pro Ala Leu Cys Gly  
 485 490 495  
 Ala Ser Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr  
 500 505 510  
 Glu Ala Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile  
 515 520 525  
 Leu Asp Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met  
 530 535 540



Gly	Ser	Ile	Val	Gln	Leu	Ser	Gln	Ser	Val	Thr	Ala	Tyr	Met	Val	Ser
545					550					555					560
Ala	Ala	Gly	Leu	Gly	Leu	Val	Ala	Ile	Tyr	Phe	Ala	Thr	Gln	Val	Val
				565					570					575	
Phe	Asp	Lys	Ser	Asp	Leu	Ala	Lys	Tyr	Ser	Ala	Gly	Gly	His	His	His
			580					585					590		
His	His	His													
		595													

## INTERNATIONAL SEARCH REPORT

Inter      nal Application No  
PCT/US 01/01574

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7    C12N15/12    C12N15/11    C12N1/21    C12N5/10    C07K14/47  
          C07K16/18    C07K19/00    A61K38/17    A61K48/00    G01N33/68  
          C12Q1/68    C12N5/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7    C12N    A61K    C07K    G01N    C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, EMBL, BIOSIS, WPI Data, SEQUENCE SEARCH

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 37093 A (CORIXA CORP) 27 August 1998 (1998-08-27)	1-5,7,9, 12-14
Y	the whole document	6,10,11, 15-18
X	WO 98 37418 A (CORIXA CORP) 27 August 1998 (1998-08-27)	1-6,9, 15-17
Y	the whole document	6,15-17
A	WO 97 33909 A (CORIXA CORP) 18 September 1997 (1997-09-18)	
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier document but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.  
"&" document member of the same patent family

Date of the actual completion of the international search

4 September 2001

Date of mailing of the international search report

10.01.02

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## INTERNATIONAL SEARCH REPORT

Internat. Patent Application No.

PCT/US 01/01574

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	SJOGREN H O: "Therapeutic immunization against cancer antigens using genetically engineered cells" IMMUNOTECHNOLOGY, ELSEVIER SCIENCE PUBLISHERS BV, NL, vol. 3, no. 3, 1 October 1997 (1997-10-01), pages 161-172, XP004097000 ISSN: 1380-2933 the whole document	10,11,18
P,X	--- WO 00 04149 A (CORIXA CORP) 27 January 2000 (2000-01-27) the whole document	1-7,9-18
E	--- WO 01 25272 A (CORIXA CORP ; REED STEVEN G (US); XU JIANGCHUN (US); CHEEVER MARTIN) 12 April 2001 (2001-04-12) SEQ ID NO 1 claims	1-7,9-18
E	--- WO 01 34802 A (HARLOCKER SUSAN L ; CORIXA CORP (US); DAY CRAIG H (US); JIANG YUQIU) 17 May 2001 (2001-05-17) SEQ ID NO 1 claims -----	1-7,9-18

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

page 2 of 2

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/01574

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 10 13 14 and 18 are (partially) directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
  
Claims 1-7, 9-18 partially.
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: Invention 1: Claims 1-7 9-18 partially

A polypeptide comprising at least an immunogenic portion of a prostate tumor protein encoded by SEQ ID 1 (according to the Description of the Sequence Identifiers), fragments and variants thereof, fusion proteins comprising it, polynucleotides or oligonucleotides derived therefrom, antibodies binding to the polypeptide, their use in the treatment of cancer, in methods for diagnosing cancer, or for expanding and/or stimulating T-cells.

2. Claims: Inventions 2-527: Claims 1-18 partially and as far as applicable

As for subject 1 but concerning respectively SEQ IDs  
2-111,115-171,173-175,177,179-305,307-315,326,328,  
330,332-335,340-375,381,382,384-476,524,526,530,531,533,535  
536,552,569-572,587,591,593-606,618-626,630,631,634,636,639-6  
55,674,680,681,711,713,716,720-722,735,737-739,751,753,764,76  
5,773-776 and 786-788

## INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No

PCT/US 01/01574

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9837093	A	27-08-1998	US 6261562 B1 17-07-2001
			AU 731840 B2 05-04-2001
			AU 6181898 A 09-09-1998
			BR 9808881 A 11-09-2001
			CN 1252837 T 10-05-2000
			EP 1005546 A2 07-06-2000
			HU 0002095 A2 28-10-2000
			NO 994069 A 22-10-1999
			PL 335348 A1 25-04-2000
			TR 9902053 T2 21-04-2000
			US 6262245 B1 17-07-2001
			WO 9837093 A2 27-08-1998
			US 6329505 B1 11-12-2001
			ZA 9801585 A 04-09-1998
WO 9837418	A	27-08-1998	AU 6536898 A 09-09-1998
			BR 9807734 A 31-10-2000
			EP 0972201 A2 19-01-2000
			JP 2001513886 T 04-09-2001
			WO 9837418 A2 27-08-1998
			ZA 9801536 A 08-01-1999
WO 9733909	A	18-09-1997	AU 728186 B2 04-01-2001
			AU 2329597 A 01-10-1997
			BR 9708082 A 27-07-1999
			CA 2249742 A1 18-09-1997
			EP 0914335 A2 12-05-1999
			NO 984229 A 13-11-1998
			WO 9733909 A2 18-09-1997
			US 6034218 A 07-03-2000
WO 0004149	A	27-01-2000	AU 5314899 A 07-02-2000
			CN 1315998 T 03-10-2001
			EP 1097208 A2 09-05-2001
			NO 20010196 A 12-03-2001
			WO 0004149 A2 27-01-2000
			US 6329505 B1 11-12-2001
WO 0125272	A	12-04-2001	AU 7994200 A 10-05-2001
			WO 0125272 A2 12-04-2001
WO 0134802	A	17-05-2001	US 6329505 B1 11-12-2001
			AU 1656501 A 06-06-2001
			AU 6158700 A 30-01-2001
			WO 0104143 A2 18-01-2001
			WO 0134802 A2 17-05-2001

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